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ABSTRACT

Five parochial open elementary schools were compared with two traditional parochial schools to determine their effects on student attitudes toward self and learning, as well as the development of educational and other cognitive skills. All schools but one were located in the inner-city. Males and females, blacks and whites, as well as various income levels were represented by the total sample which numbered 665 for the first year of the two year study. Schools were generally equivalent in academic quality independent of type of program. The open schools held their own with the traditional schools in so far as student's scores on standardized achievement tests were concerned; but they were strongly superior in their effects on attitude toward teachers and schools, and generated statistically significant differences in a positive direction in general self-esteem as well as specifically school related self-esteem. A substudy of parent's childrearing styles and family structure was undertaken to confirm that the findings were due to differences in school organizations rather than family and home influence. Another substudy demonstrated that the open school students were somewhat stronger in cooperative skills. Measures of program characteristics were numerous, being split between known instruments used nationally and internationally, as well as those designed to fit the unique theoretical concerns of the study. A small follow-up study was undertaken to investigate student adjustment to traditional and open high schools. (RC)

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Final Report
Project No. 3-1347

THE EFFECTS OF OPEN SCHOOLS ON CHILDREN: AN EVALUATION

David D. Franks, Principal Investigator

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Final Report
Project No. 3-1347
Grant No. NIE NE-C-00-30209

THE EFFECTS OF OPEN SCHOOLS ON CHILDREN: AN EVALUATION

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STAFF

Dr. David D. Franks, Department of Sociology, University of Denver, was the Principal Investigator of the project.

Dr. Stephen Dillon was the Co-investigator and Field Supervisor for the research.

Dr. Billy Grisbey was with the project on a half-time basis and had charge of community relations and the family interview part of the study.

Mr. Robert Burton was the systems analyst and methodological consultant.

Mr. Games A. Grout was a field worker and data analyzer.

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1. Joseph Marolla
2. Susan Wismer
3. Howard Lasus
4. Ellen Ritter

ABSTRACT

Effects of Open Schools on Children

Project No. 3-1347 Grant No. NIE NE-C-00-30209

Five parochial elementary "open" schools emphasizing curriculums geared to individualized student interest and teacher-student negotiated contracts for learning, were compared with two traditional parochial schools. The purpose was to determine their effects on student attitudes toward self and learning, as well as the development of educational and other cognitive skills. All schools but one were located in the inner-city. Males and females, blacks and whites, as well as various income levels were represented by the total sample which numbered 665 for the first year of the two year study. As far as could be determined schools were generally equivalent in academic quality independent of type of program.

The major finding was that these open schools held their own with the traditional schools in so far as student's scores on standardized achievement tests were concerned; but they were strongly superior in their effects on attitude toward teachers and schools, and generated statistically significant differences in a positive direction in general self-esteem as well as specifically school related self-esteem. These findings took into account sex, race and income level differences in the schools, i.e., home and demographic factors being equal, the schools themselves made the differences reported here. A substudy of parent's childrearing styles and family structure was undertaken to confirm that the findings were due to differences in school organizations rather

than family and home influence. Another substudy demonstrated that the open school students were somewhat stronger in cooperative skills, but this finding is less rigidly supported than the ones above.

A distinct effort was made throughout this study to determine what it was about the schools that made the differences in student effects or outcomes. Two general factors emerged as important:

1. A proper balance between (a) student freedom, choice and participation in designing the curriculum as well as (b) external structure that imposes clear limits to behavior and allows concrete feedback regarding how well the student meets every day educational goals. In short, student freedom and choice is only productive of self-esteem within clearly demarcated limits and feedback.

2. Schools were successful in developing a type of self-esteem assumed to be conducive to self-learners insofar as they offered a variety of school roles or activities to the students that fit and supported their preformed self-conceptions. Successful performances in "forced" roles unrelated to chosen self-conceptions were productive of self-esteem based on other person's approval rather than autonomously given inputs to positive self-feelings.

Measures of program characteristics were numerous, being split between known instruments used nationally and internationally, as well as those designed to fit the unique theoretical concerns of the study.

A small follow-up study was undertaken to investigate student adjustment to traditional and open high schools. The positive attitude toward learning among open school students seemed to hold up for these graduates despite their feeling that they could have been better prepared in traditional

school achievement skills. Open school children gave indication of taking a broader number of things into account in evaluating their new high schools than did traditional elementary graduates.

Introductory and Concluding chapters discuss the importance of self-esteem to traditional academic performance as well as of self-rewarding educational habits distinctive of the goals of these open schools. It is argued that the two goals presuppose qualitatively different types of self-esteem which are operationally defined for testing in this study. In general the findings vindicated this approach. Social implications of these findings are considered in the conclusion.

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CHAPTER I

THE CHOICE OF CRITERIA FOR EVALUATING OPEN SCHOOLS: THEORETICAL BACKGROUND

Introduction

The research reported in these pages is the result of two years experience comparing the effects of five open and two traditional schools on fifth through eighth grade students.[1] "Effects" were measured in terms of self-esteem and related factors, school attitudes, academic performance, and cooperative skills. A family interview study and high school follow-up were also undertaken.

The open schools differed in various degrees from traditional schools along the following dimensions:[2]

1. The maximization of student participation in planning their own curriculum through contracting for short and long term learning objectives.
2. Individualization of learning. Children learned at their own pace and manner. There was a minimum of large scale instruction wherein all students learn the same thing in the same way. The curriculum in significant part, derived from the student's own interests.
3. Spontaneous and changing grouping of children based more on current interests rather than age or achievement level. Thus, children frequently taught each other.
4. Learning based more on activity and experimentation rather than solely on reading, drill, and listening to lectures.

---

[1] A year and a half preliminary study preceded the fully funded project. This was made possible by Drs. Marvin Ack and James Taylor of the Menninger Foundation, Topeka, Kansas.

[2] These descriptions are not to be taken as absolutes whereby all nine dimensions are implemented totally. The point is that the open schools were significantly different than the traditional schools in the degree to which these dimensions were present.

5. Evaluation determined by student and teacher diagnostically rather than through competitive letter grades and commonly given tests.

6. Relatively little restriction of movement between and within classrooms. Activities were sometimes undertaken in the larger community.

7. Teacher as a facilitator and resource person more than a lecturer; child-centered rather than goal-centered.

8. Rooms decorated by children and including stimuli and manipulatable objects designed to capture individual interests and arouse curiosity.

9. Governance and social control procedures created and implemented with student input. This varied greatly from school to school.

In the particular schools studied, basic academic concentrations were required, though students had different degrees of choices regarding when, where, or how these skills were learned, depending on the school. In general, teachers were in touch with the students' work and reinforced behavioral rules when the children "acted out." None of the schools exhibited a laissez faire atmosphere, though the noise level often belied the relative spontaneity encouraged in the open schools.

The seven schools averaged around 100 children in the fifth through eighth grades from various socioeconomic backgrounds and ethnic origins. The two traditional schools were larger and over-balanced with Whites as compared to the five open schools (see Chapter V for sample details).

The Importance of Self-Esteem as a Criterion for Evaluating Open Schools

One of the most frequently cited goals of open education is the fostering of self-esteem and self-reliance in the child. This focus on affective factors should not be seen as necessarily antithetical to a focus on cognitive skills. As a matter of fact, the current emphasis on affective components of learning often has its rational in the contribution affective variables make to performance and cognitive skills. Given a certain level of ability, self-esteem is a critical factor in actual achievement. Researchers are more and more coming to the realization that a person's affect and cognition cannot be separated in actuality anyway. The emphasis on self-esteem as an affective outcome stems from more than its causative implications for performance however. Open school adherents have long stressed the importance of dealing with the whole child as a noncompartmentalized, integrated, psyche. Self-esteem has been viewed by theorists as the core adaptive mechanism of the human ego and its empirical correlations with depression, action inhibiting anxiety, and social malfunctioning seem to support such a claim. As a variable relevant to a focus on the whole child as an adaptive organism, high self-esteem has been empirically associated with a broad range of consensually defined "desirables" such as creativity, emotional responsiveness, concentration, and interpersonal skills; while low levels of self-esteem imply socially undesirable attributes such as passivity dependency, poor social skills, defeatism, and general incompetency (see Coopersmith, 1967; Fitts, 1972; Rosenberg, 1965; Franks and Marolla, 1976).

In sum, self-esteem is relevant not only because it is an unseparable part of academic performance (Coopersmith and Feldman, 1974), but because of its empirical association with a broad range of abilities that relate to the child's state of mental health, i.e., as a whole psyche.

A third reason why self-esteem is an important outcome for open schools, derives from its implications for self-learning. The latter has been reiterated by open school adherents since Featherstone's initial articles in 1967. For example, Silberman stated in 1973:

> Advocates of informal education generally agree that the major purpose of education should be to educate educators...to turn out men and women that are able to educate themselves... who have the desire and capacity to take responsibility for their own education... life long, self-directed learners. (xix, underlining by author)

Silberman goes on to state David Hawkins' emphasis on successful education... "no longer needing a teacher," and England's Alec Clegg who stated that the object of open education was "not so much to convey knowledge as it is to excite a determination in the child to acquire it for himself and teach him to acquire it." Finally, we can turn to Jean Piaget, an oft-quoted source for open education adherents, who said that the purpose of the new education is:

> to create men and women who are capable of doing new things, not simply of repeating what other generations have done... who are creative, inventive, and discoverers, who have minds which can be critical, can verify, and not accept everything they are offered. (As quoted by Silberman 1973:XIX.)

The goal statements place a premium on self-reliance and personal autonomy--two constructs that are usually seen as close correlates, or even components of self-esteem. (For the stress on the connection between authentic learning and autonomy, see Bruner, 1971:88, 90, and 92, as well as M. Brewster Smith, 1968:311-312). In short, self-learners must be autonomous learners with enough self-esteem to motivate and evaluate their own progress in an impartial way. That is, they must have enough ego-strength to interpret mistakes and failures as constructive information in the service of the ego rather than threats to be denied or rationalized away.

This concern is illuminated further in the following quotation by Bruner:

> Much of the problem in leading a child to effective cognitive activity is to free him from the immediate control of environmental rewards and punishments. Learning that starts in response to the rewards of parent or teacher or to the avoidance of failure can too readily develop a pattern in which the child is seeking cues as to how to conform to what is expected of him. We know from studies of children who tend to be early overachievers in school that they are likely to be seekers after "the right way to do it" and that their capacity for transforming learning into viable thought structures tends to be lower in analytic ability than those who are not conspicuous in overachievement... they develop rote abilities and depend on being able to "give back" what is expected rather than to make it into something that relates to their cognitive life... their learning is not their own. (1971:88)

Hess and Shipman (1965) following the lead given by Bernstien (1964) have clarified the relationship between mothers' teaching styles and childrens' cognitive postures in a manner that adds breadth to Bruner's point above:

> The picture that is beginning to emerge is that the meaning of deprivation is a deprivation of meaning--a cognitive environment in which behavior is controlled by status rules rather than by attention to the individual characteristics of a specific situation and one in which behavior is not mediated by verbal cues or by teaching that relates events to one another and the present to the future. This environment produces a child who relates to authority rather than to rationale, who, although often compliant, is not reflective in his behavior, and for whom the consequences of an act are largely considered in terms of immediate punishment or reward rather than future effects and long range goals. (1965:885)

It would be unfortunate if these quotations were taken to mean that authority and teacher controlled rewards and punishment were categorically damaging and to be rotely avoided. They are helpful in so far as they warn against an over emphasis on authority and illuminate factors that must be operative to some significant degree if self learning is to be facilitated. It is not necessary to conclude that all learning should be self-learning. Most British open schools combine these emphases and we can assume that a given individual may be strongly influenced by social approval but will be able to bracket this concern long enough to think creatively and autonomously; sometimes "approval" may work against "rationale," but they could interact in a mutually supportive way in another time in the same person.

Many teachers are aware that a students' anxiety about giving the answer the teacher wants--his anxiety about making the right public impression or avoiding shame--can seriously inhibit the abilities he has to focus on the objective problem at hand or to evaluate ideas on their own terms.

The development of self-learners then implies at least two major commitments. The first is to the development in the individual of a capacity to initiate meaningful educational activities without continual dependence on the presence of a particular concrete authority who controls and initiates rewards and punishments. The second and related commitment would be to a concentration on developing responses dictated by the impersonal demands of the task rather than a pre-emptory focus on skills directed to "impression management" geared to the personalistic tastes of a particular authority. While life may indeed include both, there must be an ability to bracket one for a moment to concentrate on the other. It may be important to take into account what other powerful persons think, but this does not preclude thinking independently of them and beyond them. One of the confusions in the theoretical literature used by open education theorists stems from a reluctance to see that the latter takes as much skill and competence as the former, and that neither one necessarily excludes the other. The legitimate concern is when "impression management" and interpersonal manipulation becomes a substitute for the more impersonal competencies and becomes unwittingly rewarded to the exclusion of the other.

As the following pages will describe, the focus by open school theorists on autonomy and self-learning has important implications for the type of self-esteem congruent with open schooling--for some persons would insist that achievement and presumably self-esteem is built up through skillful conformity as often as it is built up through impersonal "objective" abilities.[4] Self-esteem can have different sources and thus produce qualitatively different self-systems. However, before the theoretical connections between autonomy and self-esteem can be fully explicated it will be necessary to turn to present conceptions of competency as defined by theorists referred to by open school adherents, for all three factors are intricately related.

Competency and Intrinsic Rewards:

Jerome Bruner quotes the Russian psychologist, Vygotsky, as placing the initial step in cognitive development in the linguistic dialogue between child and parents. Though many social psychologists, especially from the Symbolic Interaction tradition may concur with this, the weight of research in child development would place the first step in cognition in the prelinguistic actions of the infant on his environment. Piaget's developmental psychology, for example, is based on the importance of self-initiated actions in the early discriminations between self and environment and the building up of the experience of a permanent environment external and constraining to ego's wishes. This seems to start as early as three months (Piaget, 1936; White, 1963 and Martin 1959 give evidence for the existence of intentional acts before the acquisition of language). In a summary of research in child development by Martin in 1959, a picture was drawn of a child who, by noting the consequences of his own actions on the world, gained significant experience in reality testing independent of adult rewards and prodding. According to the seminal contributions of Robert White to this field, the original "undifferentiated universe" comes to have a structure (that is an organization of different parts with reliable regularity in relationships between them) only because acts have different consequences depending on what they encounter (White, 1963:50). The perception of the "real world," as well as the "self," is built by the subjective contrast in the child's subjective intentions and impartial responses from an objective environment. The mental life is initially forged in action--it functions to clear the environment for the action of the organism moving through it; cognition does not automatically unfold with the physiological maturation of the child but is dependent on activities and patterned consequences. "Reality leaves its record in terms of action possibilities learned through action and its consequences" (White, 1963:69).

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[4] This dualism is reflected in the California Psychological Inventory scale measuring orientations to Achievement via conformance contrasted to Achievement via independence. M. Brewster Smith presents the same recognition of two basic orientations to life when he points out that social adjustment as a criteria for mental health bore an unwelcomed connotation of uncritical compliance to the status quo while the term competent (fit, able, capable) was acquiring meanings that enabled it to rival adjustment as the key note in a definition of mental health. (Smith in Clausen 1968:273)

All of the above simply adds empirical detail to a dominant position in current social psychology stemming from the works of George Herbert Mead. According to Morris in his introduction to Mead's most widely read book, Mead gives the same status to action in the human construction of a stable world of structure that is given by Piaget and White. With due consideration to the arbitrary nature of symbols, the primary status Mead gives to action places a limit on this relativity:

> Objects have universality in relation to the acts they indifferently support; the act has universality as the character of being supported indifferently by a range of objects. (Morris, 1934:xxvii; see also Mead, 1932:119-139.)

It is important to note ("Skinnarians" notwithstanding) that the child at this critical first stage is his own teacher and his action is self-initiated. Most important in its implications for autonomy is that action leading to reality testing at this level seems to be intrinsically rewarded.

Traditional learning theory views all relevant behavior as extrinsically motivated, i.e., the reward value of a line of action lies outside the activity itself in the satisfaction of some primary or secondary drive. Actions in this scheme take on value insofar as they can be associated (as mean to ends) with tension release (Bruner, 1971:88 and 91 as well as 1968:127, 128). The bulk of White's seminal work (1963) leads to the conclusion that the "drive reduction" model of learning is inadequate to explain many important areas of learning and cannot be regarded as adequate for general applicability or even correct in its model of man (see also Martin, 1959).

The conception of acts enjoyable in and of themselves is offered to supplement and broaden learning theory:

> Almost all children come to possess what have come to be called intrinsic motives for learning. An intrinsic motive is one that does not depend upon reward that lies outside of the activity it impels. Reward inheres in the successful termination of that activity or even in the activity itself (Bruner, 1968:114).

In presenting curiosity as a prototype of the intrinsic motive Bruner makes a statement that strikes at the very heart of the simplistic notion of present reward theories:

> We would think it preposterous if somebody thought to reward us with praise or profit for having satisfied our curiosity. However pleasant such external reward might be, and however we might come to depend upon it, the external curiosity is something inherent in the cycle of activity by which we express curiosity (1968:114,115).

In the same article Bruner moves on to discuss other examples of intrinsically motivated activities, the spark of which is consistently "watered" in many school environments (Smith, 1968:305). Robert White's competency motivation, identification with competence models, and "reciprocity" activities (Bruner, 1966:114-126) are inherently given sparks that open school environments would fan if they are to successfully meet their goals of producing autonomous persons who will carry with them a life-long tendency to be self-educators.

The intrinsic reward is, then, self-given through the consequences of one's efficacious actions. Furthermore, such behavior is displayed most typically when all physiological drives have been satiated. It is when--according to classical conditioning theory--the child should be least motivated, that we find him most actively engaged in reality testing activities leading to cognition! But the "joy of being a cause" has more than cognitive implications, it is also the precursor of self-esteem--the apprehension that one's actions can be a locus of causality--of power and capacity. The subjective feeling of effectiveness is the other side of the coin of early cognition. Affect and cognition are inseparable.

In summarizing the importance of action and its consequences for childhood self-feelings, White states:

> (Self-esteem) . . . has often been dealt with as if it were wholly a question of how one is treated by other people. I do not want to overestimate the importance of love we receive from others, but . . . even in infancy the whole matter must be viewed as an interaction. It is important . . . to make allowance for . . . action on (the) environment, . . . the extent to which this . . . is apt to be successful, and consequently of the confidence built up . . . . We can suppose that a placid child who has . . . received generous narcissistic supplies without doing much to earn them, will enjoy an agreeable level of self-esteem, provided he never enters a harsher environment. Self-esteem will be much more substantial . . . in the more active child who feels confident he can elicit esteem from others by competent performances . . . . It is to this second period that we would attribute large ego strength. The first would strike us as too much at the mercy of his surroundings . . . . Effects produced without focalized attention, intention and directed effort are simply not experienced in the same way. They seem to have happened to us; they are not felt as products of ourselves as agents. (White, 1965:201 and 203; parentheses added.)

A Two Dimensional Model of Self-Esteem

The discussions above identify key concepts that commonly appear in open education theoretical writings, but more than that they serve to illustrate the theoretical notions that have generated the dual model of self-esteem. As Smith states:

> . . . The child's sense of self would appear to have its origins in two distinguishable sorts of input, only one of which has been emphasized in a major line of social psychological theorizing. One is the feedback that the child gets about the effects of his actions in the world of physical objects and people, as stressed by White (1959) ... The other is feedback from the mirror of social response and appraisal as emphasized by the great names in the symbolic interactionist (Meadian) tradition. (Smith, 1968:302, parentheses added.)

For the present work these sources or inputs have been seen as leading to "inner" and "outer" types of self-esteem respectively. As White has argued we need a balance of both inputs for maximum development; but the former is more reliable--more conducive to ego strength--than the latter.

Actually, there is a host of writers that have made similar divisions in attempting to conceptualize sources of self-esteem.[5] Drawing

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[5] An early expression of this duality in sources of input into self-esteem is found in Robert White, "Ego and Reality in Psychoanalytic Theory: A Proposal for Independent Ego Energies," Psychological Issues, 1963:3, number 3. See especially Chapter 7. His Competency and the Psychosexual Stages of Development in M. Jones (ed.), Nebraska Symposium on Motivation, 1960, is also important. Brewster Smith has a most important discussion of the dual approach in his "Competence and Socialization" in John A. Clausen (ed.), Socialization and Society (1968). Both White and Smith have used this dual approach in ways that shed a new light on issues related to Mental Health.

Thomas Green in the latter chapters of his Work, Leisure and American Schools also develops the same dichotomy and aptly describes the connection between feelings of potency on the individual level and suppressions or facilitators of these feelings in the social structure of American society. In this regard see also Dennis Brissett who points to the lack of support in our current social structure for the development of feelings of self-worth (earned potency) as opposed to an over concern with social approval. This is argued in his "Toward a Clarification of Self-Esteem," Psychiatry, 1973. Chad Gordon has also implicitly described this duality in terms of supports for or against it in the social structure when he suggests that the sense of competency be analyzed as distinctly connected with Adaptation problems in social systems whereas moral evaluation and feelings of acceptance are analytically separate foci which lie characteristically in the area of Integration and Pattern Maintenance. See his "Self Conception Methodologies," The Journal of Nervous and Mental Diseases (1969).

An interesting parallel to those dual approaches can be found in the writings of Ernest Becker who stresses the difference in self-feelings for the person who characteristically earns his self-esteem in the action world and the person who lives more in his own fantasy. Becker lays down the phenomenological base for the framework presented in this report (as well as clearly identifying its implications for mental health) in his 1965 essay "Mills' Social Psychology and the Great Historical Convergence on the Problem of Alienation" in Horowitz (ed.), The New on these writings, Franks and Marolla (1976) have systematized what was implicit in these works and an empirical test of the theory was presented. In another article dated 1974, the two dimensions of self-esteem were operationalized in a different and more satisfactory manner. Both measures were used in the present research.

Recently Stanley Coopersmith and Ronald Feldman have distilled their knowledge from two decades of leading research on this topic in discussing the relevancy of self-esteem to education and vice versa (Coopersmith and Feldman, 1976). While they also discuss the two sources of self-esteem, some significant differences in their view and the present one are to be noted. First, Coopersmith and Feldman do not commitment themselves to a conceptualization of two qualitatively different types of self-esteem. This may be seen as a relatively minor difference, but the next difference is crucial to an understanding of autonomous, yet social, inputs to self-esteem. The following two pages address this problem.

Coopersmith's description of the first source of self-concept parallels that of Franks and Marolla and will be presented here in full as definition of outer self-esteem:[6]

Sociology. Robert White briefly delves into the phenomenological aspect of this approach to self-esteem when he notes that effects produced by intents, focalized attention, and directed effort are simply experienced in a different way than unintended effects not connected with intentionality. See his "Experience of Efficacy in Schizophrenia," Psychiatry (1965).

On the empirical level Victor Gecas has utilized the semantic differential to tap two dimensions of self-esteem: virtue/moral worth and competence/effectiveness. His data give clear indication that these dimensions were differentially related to parental support and varied by sex and social class of respondents. Coopersmith and Feldman (1976) are also relevant.

[6] While self-concept refers to beliefs regarding what the actor thinks he is on a cognitive level, self-esteem refers to how this content is evaluated on the affective level.

> The self-referring beliefs that are organized into the self concept are based primarily on two sources. The first of these includes the significant others, for example, parents, teachers, and peers, who are especially important to the child (Mead, 1934). They provide social feedback by their treatment of the child, their responses to his statements, the extent to which they reveal and express themselves, and the manner and extent to which they accept, trust, and support the child. Each person's self concept, to a considerable extent, is a mirror reflection of how he has been (and is) seen by others who are important to him. The role of the significant others is particularly important in the early years, when the child has no other bases for judging the appropriate and suitable ways for him to be treated. In the home the most important significant others are the parent, and to a lesser extent, the siblings; in the school the most significant others are generally the teacher and, depending on the child's age level and personality traits, the peers. (1974:201)

The significant divergence however, is with the way Coopersmith and Feldman conceptualize the more autonomous source of self-esteem described in the quote below. In limiting autonomous sources of self-esteem to feedback from the physical environment, important "social" inputs on this level are not considered. Thus, Coopersmith and Feldman continue with their discussion of what Franks and Marolla refer to as "inner self-esteem."

> A second source of evidence when the child forms his self concept is the physical feedback that he receives from his explorations of the physical environment. This type of feedback invloves information communicated to the child from his own experiences rather than via the opinions and views of other persons. Thus a child who tries to build with blocks and finds he cannot do it because they fall down knows his limits without having to be told that they exist. Many of the activities that children pursue provide direct feedback that enables them to determine directly whether or not they are capable and growing in their skills. Among such activities are bicycle riding, racing, skating, building with blocks, and swimming. (1974:202)

What is not recognized in the statement above is that it is possible to internalize strictly social standards that have the same theoretical properties as the physical environment--at least insofar as they effect self-esteem. For example, one of the most important features of the physical environment is that it is impartial and gives relatively unequivical and reliable feedback compared to a partial significant other. It is objective in the sense that we can't ingratiate or otherwise cajole it with interactional metagames and unspoken threats. But more than that perhaps, it is more difficult to rationalize away feedback from an inanimate physical object when it's feedback is unsupportive, i.e., though it is possible to do so, it is harder to take negative feedback from an inanimate object personally. The example of the man hitting the door back after it slams his finger, is usually taken humorously just because it is so inappropriate. In sum, the impartial and impersonal nature of feedback in the physical world is what gives such clear guidelines enabling the self-assessment of one's own skills. One does not argue with the fairness of an avalanche--not for long. And while the social world may be made up of opinion and relativism, the mountain gives the skier no quarter. It is the skier who must do the conforming to the properties of the mountain. Getting the first run down the mountain may have involved all the "Machiavellianism" that a person could muster, but once on his way down he lives in an absolute world of concrete mistakes and abilities. The attribution of cause is clear.

It is George Herbert Mead (and Emile Durkheim as well) that produced the conceptual tools to identify levels of socially created environments that have the same features of the physical environment--at least as they relate to the facilitation of self-assessment and attribution of cause.

According to Mead, reflective self awareness is predicated on "role taking." One becomes conscious of himself as a social actor by seeing himself as others see him--temporarily adopting their standpoint towards his own emerging behavior. He may or may not accept their standpoint as his own, but social control is usually self control in that the actor's imagination of other's responses are used to monitor and give direction to his on-going behavior. It is in this way that symbolic rules are established guiding concerted cooperative interaction. At first these rules germinate from particular actors--significant others in Sullivan's terminology--and are expressive of the unique particular persons involved. However, insofar as the child learns the rules of grammer, the child is internalizing an impersonal and objective system of norms that transcends particular individuals, but is nonetheless social in origin. Durkheim would describe this as the "collective unconscious or consciousness," while Mead would refer to the "generalized other" at this point. Structures such as math, logic, etc. are similarly social but impersonal. Thus we have in the first stage of role taking, an external and constraining source of feedback that is personal and unique, while in the latter stages, the external and constraining feature is general, impersonal and objective. Morris, in his introduction to Mead's most widely read work (Mind, Self and Society, 1934) states that "Mead's generalized other may be regarded as the universalization of the process of role-taking where by it looses its personal character." Thus, a mathematician can create a new system that is not validated by any particular others while he is creating it. Insofar as he has incorporated the rules of mathematics to such an extent that he is lead to new knowledge, he is the epitome of the socialized actor applying socially created, impersonal rules to his own thought-activity.[7] Autonomy in this sense is more than compatible with the social, it is the quintessence of it. In conclusion then, Coopersmith and Feldman do not need to limit their second source of self-esteem to the physical environment, the social environment offers indifferent regularity and structure also. While rules regarding personal relationships may change quickly and arbitrarily, more abstract impersonal rules and structures are relatively permanent and reliable. For these reasons it is suggested that the personal--impersonal criteria replace the social--physical dichotomy regarding inputs to self-esteem.

Inputs from particular persons to a child's self-esteem are not ultimately in his control, but derive from others; therefore these are referred to as "outer." Inner self-esteem is more typically gained by an active and self conscious commitment to impersonal rules. It is self earned; one must see the principal, not in a rote way, but on one's own. It is, insofar as an act is functionally autonomous from any one person, that this is referred to as inner. Bruner has stated, the understanding of principal in an intellectual endeavor is essentially an autonomous act. The teacher can lead the children to the water, but only the children drink.

Conclusion

This chapter has presented reasons why self-esteem is an appropriate criterion for evaluating the open schools in this study. A dual model of inner and outer self-esteem has been presented that is tailored to the specific goals of developing self-learners. One of the focuses of this research is to see if the social organization of open schools increases the opportunities for children to engage in intrinsically rewarding activities leading to the development of self-esteem derived from one's own autonomous actions rather than the reflected responses of others. While it is recognized that both intrinsic and extrinsic rewards are interwoven with each other, the distinctive emphasis of open schools is on the former. While this comprises the deductive theory testing focus of the research, attention is paid to various other differences in open schools as well as what it is about these schools that may bring about these differences.

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[7] It is here that Vygotsky's work quoted by Bruner (1961:28) becomes most helpful.

CHAPTER II

DESCRIPTION OF SCHOOLS

This chapter describes each of the seven schools in this project in terms that supplement the information generated by the various measures of program implementation used in the empirical part of the study. Tangible features of the school buildings and recent historical events are described in order to give a picture of the physical environment in which these children receive their education. The pattern of social organization that prevails in each school and the interactions among teachers are also discussed. Organized and unorganized activities of the students will also be addressed.

Sacred Heart, Georgetown, School #1

In the first year of the study, school #1 had an enrollment of 124 students in grades 5, 6, 7, and 8. Of these 95% are black, about half are Catholic, and there is an equal distribution of males and females. Parents of most of the children are lower class to lower-middle class. Almost all students live within the boundaries of the parish to which the school is attached (approximately a sixteen block radius of the school, see Table 1 on following page). The neighborhood includes about eight blocks, north and south of a model cities area and is considered as part of the inner metropolis. The community has been substantially black at least five years and is no longer in transition. Younger lower-middle income families tend to move farther south, causing a rather large turnover, in school enrollment each year (25-35%). School #1 is close to the high crime area in the city.

TABLE 1

GEOGRAPHICAL PROXIMITY OF FAMILIES TO SCHOOLS (1973-74)

SCHOOL	No. FAMILIES (5-8th grades)	% living within 1-mile radius of school	% living within 2-mile radius of school
Lanetto	81	5%	19%
St. Laude	86	56%	88%
St. Terrance	62	66%	89%
Sacred Heart Georgetown	89	73%	93%
Benedictine	74	72%	95%
St. Andrews	83	86%	100%
Sacred Heart Dansville	128	59%	98%
TOTALS	603	AVE. (minus Lanetto) 69%	AVE. (minus Lanetto) 94%

For whatever reasons, the students tend to be highly motoristic, talkative, and outwardly expressive. Also, there seems to be visibly strong peer-group pressure, more so than in the other schools. Parents send their children to school #1 for two reasons: either they are Catholic and belong to the parish, or they are dissatisfied with the local public schools and choose the kind of education the "Sisters" offer. In general, they do not send their children because of the open program that Sacred Heart, Georgetown offers.

The school building is old and much too small and cramped to serve adequately the needs of those enrolled. The gymnasium is located on the first floor and helps to magnify and funnel noise through the building. However, in the observers judgement the enthusiasm and dedication of the staff make up for the shortcomings of the building.

The 1973-1974 school year initiated the third year of open education. Despite several new teachers and changes in classroom procedures, the students seem to have adapted well to increased participation in determining their own learning. Tuition has been set at $250 per family by a financial committee chosen by members of the school board. The financial committee is also responsible for the collection of tuition monies.

The same principal has administered school #1 since the inception of the open-education program. In fact, she was more responsible than anyone else for the introduction of open education in these inner city schools. During the first two years of the program she acted as principal in two other school buildings in addition to school #1. This administrational arrangement was burdensome for the staff and students because of frequent absences of the principal. The 1973-1974 school year was the first year for a full-time administrator in the building. The principal seems to have a firm grasp on the values and norms appropriate to a productive open program. However, it has been hard to articulate the open philosophy of education with sufficient precision to the present staff. Part-time administration, turnover in staff, and limited resources for recruitment of teachers who are trained in the concepts of open education have detracted from the effectiveness of an open program. None of the teachers had experience in open education teaching or training before starting the open program in 1970. A school philosophy was not spelled out until the 1973-1974 school year, and then the statement of goals and objectives was vague and abstract. Teachers were inconsistent in their attempts to implement an open program and as a result they did not present a clear firm set of expectations to their students.

All students are required to take language arts, social studies, and math. The other subjects are electives. Five periods a week are mandatory in math, in language arts, and in social studies. Thus, fifteen periods a week may be determined by the students. Schedules are changed about every five weeks. Within each subject students contract with the teacher for units of work. The range of activities within a class is not very great, which indicates that the teachers have had relatively little training in provisioning open classrooms. Though the provisioning of activities in most classrooms is comparatively limited, there is a rich display of students materials in hallways, in the social studies classroom, and in the language arts rooms. Sometimes students are in groups of their preference; at other times they are "instructed" (especially math and language arts) in one large group by the teacher. Students have abundant time for learning on their own.

Grades 6, 7, and 8 are grouped vertically - older students frequently act as tutors for younger ones. Teacher pupil ratio is 24.8.

Though students have not formally determined behavioral norms, they do make decisions about elective courses to be offered, through the Student Council, and some have taught elective courses. There are no comparative grades. Students are encouraged to evaluate themselves in their course work. An individual report is written up on each student four times a year and is added to the students' self-evaluation. Parents are requested to attend student-teacher-parent evaluation twice a year.

Not infrequently there are anxious, disruptive spurts of behavior where little purposeful learning takes place. And yet there are many times when students enter the decision-making process and initiate their own learning--with a minimum of anxiety about outside pressures. In short these students seem to have shared significantly in creating their school environment and to feel good about their school. The 2% rate of absenteeism would tend to support such a conclusion.

Inservice Consultants from the North Dakota ranked this school as one of the highest in openness along the freedom dimension, however control and/or external structure is comparitively low. Thus it could be said that the environment is somewhat permissive relative to the other open schools. But more than in any of the other schools, the children in Sacred Heart Georgetown have created their own social environment.

Benedictine, School #2

In 1973 school #2 began the year with 110 children enrolled in grades, 5, 6, 7, and 8. Among the children enrolled, 45% are Catholic, 54% are males, and 99% are black. Most children belong to families that are classified as lower income, however there is a sprinkling of professionals among the parents. The homes of most families are located in a neighborhood that is black in the high crime center of the inner city area, and close to the school. Tuition is $300 per family and a real burden for most. Parents send their children because they are members of one of the supporting parishes or because they are displeased with public schools. Also, some of the children who entered Benedictine were classified as disciplinary problems in the public schools. More than any other student groups these children come from a poor and anomic neighborhood.

The school building is in very poor condition and has been that way for the past three years. Carpet fragments have been added to most of the floors, and still the rooms are noisy and not conducive to learning. There is great need for desks, books, and an adequate library. Despite the adverse conditions, the present staff has done an admirable job with the little they have to create a proper learning environment. Three years ago two parish schools were consolidated: grades 1, 2, 3, and 4 were organized in one school building as a lower school, and grades 5, 6, 7, and 8 formed Benedictine, a middle school, school #2. For two years the principal of school #1 also had responsibility for administration of school #2. In September 1972 a totally new staff met with students who were almost entirely strangers in the building that was reorganized for middle grades. In that setting the principal tried to undertake an open program with teachers who were not prepared and some of whom were not even willing to open their classrooms.

In the first year the principal has responsibility for preschool and grades 1 through 4 in another building in addition to the middle grades in school #2. Time is now equally spent between the two buildings. The principal (a retired service man) is primarily a benevolent disciplinarian and administrator and does not personally provide on-going educational leadership for the staff. Thus consultants are provided for the teachers.

From the beginning the staff has been loosely committed to open education and has, therefore, lacked cohesion in relation to values and expectations for students. The frequent absence of the principal has increased confusion about basic objectives. The statement of school philosophy exemplifies a need for clarification of values and common understanding of the school's aims. The philosophy is too broadly and abstractly stated to be of much practical value to the staff.

Basic financing of the school program has been and is now problematic. Physical improvements and material provisioning cannot be made to move the program along because of severe financial limitations. Recruitment of qualified teachers is difficult due to inadequate financial resources and the impoverished neighborhood. Were it not for diocesan subsidies, the program would have folded. The school does what it can to rally parental support, but it has not been too successful. Neither the school board nor the PTA have been very active. Staff members have reversed the normal direction of communication with parents as they have tried to carry on regular visitation of families.

However, there are open aspects to the program. Students make up a weekly schedule and determine when they will study religion, math, language arts, social studies, and science. During the last two periods of the day art, music, physical education and a few other activities are offered as electives. Hence, students can choose when to study courses that are required and how long to study them. It is possible for a student to spend an entire morning on one subject if he so chooses. Within each subject students contract to do a weeks work. However, there is little variation in what they can choose--projects are frequently predetermined by teachers. There seems to be busy "bookish" work in social studies and language arts.

The principal has made a difference in the schools; benevolent external discipline, order and purposeful activity have begun to outweigh disruptive activity which was quite pronounced two years ago. The reduction in enrollment from 151 to 110 was brought about by removal of disciplinary-problem students. At the same time, a certain attractiveness in the school has surfaced--students appear to be curious, talkative, and friendly. School apparently is the setting for many of these children to release their tensions in a constructive way. Students seem to enjoy going to school. Perhaps, they have good feelings--better feelings--about themselves and their lives than they do at home. Absenteeism is 3%, an improvement since the program was introduced.

One teacher has students do their own evaluations. Otherwise, there is no self-evaluation. The evaluation form is ambiguous and could easily amount to comparative grading (E, VG, G, S, P). Students are grouped on the basis of ability in language arts, math, and reading. School #2 has some very real problems: about one third of the enrollment is at the first grade reading level. Despite all of this Benedictine appears to be a different school type than the two traditional schools in this study and is ranked by all of the various program implimentation indexes as the lowest school on its degree of openness, but open non-the-less.

St. Terrance, School #3

School #3 showed an enrollment of 100 in grades 5, 6, 7, and 8 the first year of the study. About 55% are Catholic, 75% black, and 52% males. Children come from families living within parish boundaries, roughly fifteen blocks by fifteen. The neighborhood is 90% black and still shows signs of tension resulting from a rapid transition in racial composition. There has been extensive vandalism in the area for several years. The tuition is $380 annually per family. Most families make a sacrifice to pay the tuition as they range from lower to lower-middle socio-economic class. In this regard it is similar to school #1. Parents send their child to school #3 for the same reasons as were given by parents with children in schools #1 and #2: because they are members of the parish, or because they are dissatisfied with public schools in the neighborhood.

The school building is a definite attraction. It is brightly painted, in good physical condition, and well maintained. All classrooms have been carpeted. There are six classrooms and a library on the second floor for grades 5, 6, 7, and 8 all of which are vertically grouped.

The principal is an excellent administrator. The school office is supervised in an orderly and efficient manner. Observers have to be impressed by the precise schedules and detailed lists that are typed and run off by the principal's secretary. More than one half of the staff members in the middle school were volunteer teachers at the beginning of 1972-1973. Turnover in staff added to a visible drop in cohesion among staff members. Program values were not clearly and forcefully articulated with the result that up to recently students did not have consistent expectations about learning activities. In 1973-1974 all but one of the middle school staff returned, and there was a dramatic and positive reversal in communication of values to students. A stable staff was able to clarify their own expectations. Those expectations, in turn, came through with consistency. Learning activities became purposeful, and students were noticeably motivated and productive.

School #3's statement of its philosophy indicates a superficial articulation of open education values. The language is too abstract, and general objectives are not sufficiently specified. Again, the lack of stability among staff members has undoubtedly prevented an on-going development of values and expectations until the two fully funded years of the study.

In comparison to other schools, the parents take a more active role in achool activities. The PTA has been a mechanism for supplying aids for teachers on a regular basis. The school board shows an interest in school policy and could become an active force in the articulation of program values. Parents are expected to come to the school twice a year for the evaluation of their children.

All students must take social studies, math, language arts, science and religion. Nonetheless, within a given required class there can be much latitude for choice and decision-making. For example, in science the teacher determines one project area per month. When that project has been completed, students are allowed to pursue whatever is of interest to them within the broad limits of physical science. There is some group instruction in math and religion, but very little in language arts, social studies and science.

Grades 5, 6, 7, and 8 are grouped vertically and work together easily in helping relationships.

Though the teacher-pupil ratio is 18.2 and thus relatively low, there was much anxious disruptive behavior. Teachers seem to be inconsistent in their demands: language arts activities have been calm and purposeful whereas the math room has been the occasion for chaotic and disturbing behavior. The rate of absenteeism has remained the same as it was before the open program, 6%.

The student council does not enter into the role-making and rule-enforcing process. The student council does offer occasions for students to interact with parents and to present aspects of school activities at PTA meetings. Just as students do not have a voice in rule-making and policy decisions, they have little to say about their own evaluation. On the other hand, great strides have been made in individualization of student evaluation.

While this school is definitely into the openness category as reflected by the several program implimentation measures and the judgments of the inservice consultants, the observers impressions are that student participation in the general educational process and general social structure is comparatively low in relation to the other open schools. Within a required "class" however choice and student decision making is much in evidence. St. Terrance then is a mixture of dimensions that is difficult to describe, but generally it can be thought of as open in important respects while lacking in student participation in rules and general role making.

St. Laude, School #4

School #4 had 115 students enrolled in grades 5, 6, 7, and 8 in 1973-

1974, their third year of open education. About 60% of the students are Catholic, 91% are black, and 48% are male. In these respects St. Laude is similar to school #1. Parents of a majority of students also live in a predominantly black neighborhood that has been relatively stable racially for three years but they are predominantly middle class. In the school there is an annual turnover of 30% in enrollment because younger black families are moving farther south in Georgetown. Most parents live within the parish boundaries and have similar reasons for sending their children to St Laude. In general, parents do not send their children because of an open program. As in the case of school #4, parents are dissatisfied with public schools in the neighborhood and opt for the moral and religious training that is associated with a school conducted by Sisters.

There has been a rapid change in the social composition of the school in five years. Tuition in school #4 stands at $325 and $429 for two or more in a family. The building is quite old and traditional in design. Grades 6, 7, and 8 are on the second floor in three classrooms. There is a library on the second floor which detracts from the openness of the program because it serves as a depository for books rather than a reading-learning area for children.

The principal and staff freely decided to implement a more open program in St. Laude after 1971. The principal is personable and very open with the teachers, serving more as a leader than an administrator. The principal and staff have carefully worked through the essential values of open classrooms. The result is that teachers have precise and consistent expectations which they readily communicate to their students. Expectations

which are translated into behavioral objectives include consideration and development of feelings of students, action-learning, autonomous learning activities, and interesting and pleasurable learning experiences. Codification of values of open classrooms is an on-going project for all staff members. The stated philosophy is clear and well articulated.
The principal and teachers interact freely and seriously, have been together through three years of open education, and are committed to the school program.

Parents do not seem to be closely involved in the operation of the school though the conventional opportunities are available to them (PTA, quarterly report periods, and the like).

Though courses do not change, a schedule of time periods for each class is made by all students once a week. A minimum number of periods must be given to math, social studies, science, and lauguage arts. After the required hours have been fulfilled, students may arrange their days and hours as they choose. There are reading courses for all in language arts, grouped according to abilities (slow, average, bright). Slow readers have special sessions in social studies each week. All classes have been vertically grouped for three years (grades 6, 7, and 8). Frequently older students can be observed helping younger students. Large group instruction is rare.

There are no bells. Still students move from one activity to another with ease. Throughout the day they have considerable freedom to move in and out of classrooms and up and down the halls--some study in the halls. While there is a free, relaxed atmosphere, there is a pervasive impression that the learning environment is controlled. The pupil - teacher ratio is 28.8. Most of the time students are invloved in purposeful learning and there are few occasions of disruptive behaviors. An extensive display of student drawings, papers, and projects indicates their interest, creativity, and productivity. Visitors do not disrupt classroom activities by their presence. Absenteeism remains at 7%.

On the negative side, students do not participate in rule-making or rule-enforcing. The staff has not dealt with considerations of student participation in evaluation. In the future, group guidance sessions will possibly be the first step towards self-evaluation by students.

It should be noted that schools #1 and #4 were consolidated at the end of the 1973-1974 school year. Two staffs and two distinctly different student bodies were brough together in the building that served school #4. Enrollment in grades 5, 6, 7, and 8 is practically twice as great as it had been. Grades 7 and 8 are together in four classrooms on the second floor and 5 and 6 on the first floor. The consolidation appears to have taken place smoothly bring together features of the former schools. The consolidated school relevant to the second year of the study is hereafter referred to as St. Margaret.

Lanetto Academy, School #5

School #5 is a private school staffed largely by religious women, and yet religion is optional and slightly less than half of the students are Catholic. In 1973-1974, 87 children were enrolled in grades 6, 7, and 8--20% black and 87% females. Since tuition is $710 per year, most parents range from the middle to upper income brackets. The school is located on the extreme southern edge of Georgetown, and so does not have a neighborhood from which to draw students. Students are either driven or bused to school and they come from many neighborhoods and at great distances from school.

Another distinguishing characteristic of this school is seen in the reasons parents have for sending their children. Many parents were made aware of the distinct values of open education and sent their children because of the program. The stress on open school learning, self-movitation, problem-solving activities, group participation, and freedom to pursue individual interests attracted parents.

The impressive, modern building was planned and constructed on specifications made by the staff so that it would lend itself to open education. It was built in 1965 along an open-space design so that it would have added flexibility for future needs. Rooms and halls are flexible and permit spatial variations. The halls and classrooms are carpeted; the entire building is air-conditioned. It is well furnished and quite spacious, providing a setting for bodily freedom and expressiveness. A humanization of school philosophy was timed with entrance into the new building. At this time factions among staff and patrons grew out of a struggle over educational values. Finally, values in favor of greater autonomy for students won out, and so many parents withdrew their children from school. The selective bias in this sample was one reason Lanetto was dropped from the home environment part of the study (see Chapter X).

The present principal of Lanetto moved as a teacher into the new building nine years ago. For seven years she remained as a teacher in the middle school until she was appointed principal. In an effort to remain close to her students she teaches each semester. She appears to be alert to ideas, practices, and suggestions that may improve the program. In turn, she encourages feedback, criticism, evaluation of staff and herself, discussion, and the evaluation of critical thinking into program expectations. The dynamic process of establishing program values and expectations is concretized in the school's statement of philosophy. This statement is clear, precise, and targeted on the needs of a very specific group of middle-grade children. It articulates a program that allows for autonomous learning within firm and well defined limits.

Consistent with an open program, school #5 provides for self-evaluation of students, optional religion classes, and strictly "free" time, that is the free use of time that is not scheduled. Another dimension of the program is its community government, the fact that students as well as parents and teachers have representation and voting power in policy-making decisions. For instance, students may suggest courses and even teach some. All courses change every month, except foreign languages, orchestra, and math. Each student must take two of eight courses offered in language arts and social studies. Math is required once a day, and some must take special reading courses in conjunction with language arts.

Though class periods are observed, there are no bells. Movement from room to room is very free and relaxed giving the impression of a highly congenial, pleasurable, expressive, spontaneous, active learning environment. And yet there are various purposeful activities in progress. Outside observers do not disrupt the learning process in most cases. Perhaps, the teacher-pupil ratio of 14.5 has profound influence on learning and attitudes toward school. Lanetto is the most open of all schools in this study.

Sacred Heart, Dansville, School #6

School #6 (Sacred Heart, Dansville) is classified as a traditional school. Students in grades 5 through 8 numbered 177 in 1973-1974. Composition of the four grades included 85% Catholics, 33% blacks, and 537 males. Many parents are blue-collar workers and range from lower-middle to solidly middle class in income and educational background. Some professionals and a few black welfare families have chosen to enroll their children in school #6. The neighborhood is in the throes of rapid transition from all white to a black-white racial composition. Many white families living within the parish boundaries have moved farther west in the past two years. Tuition is $100 annually for all children per Catholic family registered in the parish and $275 for the first child of non-Catholic and non-registered families. Dissatisfaction with neighborhood public schools, busing, and parish membership are reasons for enrolling children in school #6.

The school building is very traditional in design. It is clean and well maintained. A spacious cafeteria and a large gymnasium add a desirability which most of the other schools do not have. The principal has been a strong influence in bringing about harmony in a program that otherwise has been pulled apart by different factions in the parish and tensions in the neighborhood. He himself has progressive and humane educational values in addition to being a thoroughly efficient administrator. He seems to have struck a compromise between his own values and those of older staff members and parents. The instructional program is geared to the development of academic skills, and heavy emphasis is placed on achievement in basic subjects. The principal has a reputation among many students as a strict disciplinarian.

The school philosophy is well stated and dedicated to the growth of the individual student. It stresses a learning process based on each student's ability. However, there are major inconsistencies in the implementation of stated program objectives. For example, some teachers instruct all students in large groups and expect them to advance at the same pace despite wide differences in abilities. In practice, a professed multitext approach yields to grouping on the basis of "slow" and "the others." The math class is an exception to general classroom procedures in that all students learn at their own pace and on contract.

The most recent principal has established an overt cohesion among staff members though there is a hidden value system that pervades the program, namely, the importance of adult instruction and external discipline. Students give the impression that they want to please their teachers and that they are dependent on adult direction.

External discipline is maintained in the school in such a way that the children are well controlled in terms of overt behavior. There is a rigid time schedule: bells ring at 45 minute intervals. Students sit in rows and columns in language arts, social studies, and science. The teacher-pupil ratio is comfortable 25.3, but absenteeism is 8%.

Provisioning of classrooms gives priority to teacher needs and interests. Rarely does one find signs and displays that are done by students. Where student materials are displayed, they are usually the same because of teacher demands and directions. Students do not appear to be spontaneous or expressive; they usually do not talk in the presence of teachers. When students do talk, they often do so furtively as though playing a game--"don't get caught." Observers and visitors readily disrupt instructional activities when they enter classrooms, the learning process stops.

Students do not take part in their evaluation, but the principal is striving to eliminate comparative grading practices. Quarterly progress reports are sent home in an effort to match each student's ability with achievement.

Parents are relatively invloved in school affairs. Both the PTA and the elected School Board are interested and active. The principal suggested a weekly meeting with parents who wish to discuss school practices and objectives; this has been an excellent forum for opening communication and anticipating troublesome situations. Sacred Heart, Dansville, is a good traditional school.

St. Andrews, School #7

School #7 entered the study as a comparison school primarily because of its reputation for having a strong adult-dominated instructional program. In 1973-1974 the intermediate division (grades 4, 5, 6) was highly individualized and allowed for some student determination of the learning process. The junior high division (grades 7 and 8), though individualized, was much more structured and subject to adult direction. Grades 5, 6, 7, and 8 enrolled 121 children with a teacher-pupil ratio of 26.9. In these grades 85% are Catholic, 23% black, and 58% males. Tuition is $360 a child per year and $500 per year for two or more in a family (also $500 for non-Catholics). Most families live within the parish boundaries and are classified as middle class with respect to education and income. The neighborhood is marked by a transition from predominantly white to white-black racial composition. Rapid acceleration was slowed somewhat by the economic condition of the nation. Parents send their children to St. Andrews for the same reasons that have been proposed by parents in the other schools: either because they are parish members, or because of religious and moral training provided by the Sisters.

The principal is beginning her second year as administrator. She has humane and progressive educational values. At the same time she is an astute observer of human nature and quite conscious of the differences that exist among her teachers. She is gently but firmly bring her staff to more open learning practices. Differences between the intermediate and junior high divisions are immediately observable in the activities of the students at the two levels. The building is constructed according to traditional design, but it is well maintained, bright, and attractive. Classrooms are spacious. A large library is a fine asset to the total program. Volunteer staffing makes it available to both divisions on a continuous basis.

The school's philosophy reflects the principal's well conceived and clearly defined values and expectations. School objectives are well stated and expressed in terms of behavioral goals. These goals, moreover, set the ideal parameters for an individualized program. However, observers note inconsistencies between stated goals and practices in the school.

Classes in social studies, math, reading, language arts, science, and religion are scheduled for seventh and eighth grades before lunch. After the lunch periods, electives are offered for these grades in the form of crafts, physical education, modern languages, and art. Religion is not an optional course. The math and reading classes are grouped according to ability and labeled "slow" and "bright." In one classroom they actually face one another. Programmed instruction texts and the multi-text approach are used in language arts, math, and social studies. The seventh and eighth grades have much less freedom to move about their classrooms than the fifth and sixth grades. Instruction for the entire class is the rule for the junior high division whereas it is, the exception for the intermediate division.

The report forms, reflect an attempt to evaluate student progress rather than to compare students on achievement. These reports are sent out four times a year. Parents are invited for conferences at the end of the first quarter. A spirit of learning the basic educational skills is present in the school, and it is not marred by serious disruption. The children are well behaved and orderly. An absenteeism rate of 5% attests to the seriousness that most of the students feel about their school experience.

Parents are invloved in the PTA and the School Board where they have a chance to help formulate school policy. Parents appear to take a more active role in the school than the parents of open school children and feel strongly about a college education for their children. Their expectations have provided the school with support for the motivation of children to achieve. Indeed, school #7 might easily serve as a model for quiet purposeful learning even though curriculum focus on student's interests, autonomy, and self-determination are minimal compared to the open school.

CHAPTER III

THE MEASUREMENT OF PROGRAM IMPLEMENTATION: A MULTI PERSPECTIVE APPROACH

Five instruments were utilized in describing the extent to which the various schools actually presented different educational environments to their students. The goal was to generate numerous dimensions of educational programs and rank all schools (Traditional and Open) on a continuum of low to high on each dimension separately. These dimensions became the independent variables (acting as main effects and sometimes in interaction with each other) for the outcomes selected in this study.

An attempt was made to use information from as many perspectives as possible in describing the schools; therefore, students, teachers, research observers, outside consultants in open education, and--to a lesser degree--parents, were used in the data collection process.

There was no expectation that these schools would fit any consensually defined notion of the perfectly implemented "open" classroom. Since there is no uniformly accepted definition of what the term open should--or really--means, it is important that the researcher not be distracted by basically nominalistic concerns. The major definitional criteria guiding this study were that the differences in educational settings be theoretically relevant in regard to the outcomes and that these differences bear on the nationwide dialogue undertaken under the nominalistic label of open and traditional education.

Three nationally available instruments were used that proportedly measured "open" education, or the degree to which this was observably implemented:

1. The Walberg-Thomas observer and teachers check list completed by two independent research observers (Walberg and Thomas, 1974).

2. The Traub, et al., Dimensions of Schooling (DISC) completed by the teachers (Traub, et al., 1972).

3. McPartland and Epstein's scale filled out by the students and teachers--referred to herein as McPOP (McPartland and Epstein, 1974).

These three instruments served as operational definitions of what some important researchers on this continent view as open education. They are used here to assure that the particular schools in this study exhibit observable features defining them as open relative to other schools so considered in research currently conducted in North America. At the same time the availability of such instruments enabled the authors to establish the concurrent validity of their own measure in statistically acceptable terms.

Two original instruments were developed during the project to describe dimensions of these particular schools that were of special interest to these researchers:

1. The Dillon et al., Freedom within Limits Scale referred to herein as FLOS. This is an observer's check list.

2. The Marolla SIP completed by the students themselves. This is the most specialized of all the measures of program implementation. It describes the degree to which each school offers roles and activities that are congruent with and supportive of the children's salient self-conceptions.

Finally, in-service consultants from the New School of Behavioral Studies in Education, University of North Dakota, ranked the schools in terms of openness using criteria derived from their own experience supervising open education teachers in field placements and consulting on a nation wide basis. This is not used as a measure in the data analysis but as a check on other instruments and a way of adding an important outside perspective on an overall description of the schools.

Program Implementation Scales

FLOS: Freedom Within Limits Observer's Check List; Theoretical Rational. The core concept informing the FLOS observer's check list is derived from Stanley Coopersmith's study The Anticedents of Self-Esteem, 1976. One of the major findings of this well known work was that children with high self-esteem tended to have parents who gave them freedom and self-responsibilities within a clearly defined set of limits. These limits were derived from an articulated set of values to which the parents had made unambivalent commitments. It seemed reasonable to hypothesize that schools offering analogous structures may be noticably successful in developing self-esteem over and beyond the family influence. This would be especially true in school related areas of the self. While some open school teachers around the country may defend a permissive environment for children, writers such as Perrone, 1972; Hawkins, 1967; Bruner, 1966; Johnson, 1974; and Chittendon, 1972, recognize and discuss the need for structure in innovative education. (See also the telling argument by Kozol at this point, 1972).

Certainly the findings from the field of child development itself argue against permissiveness as a producer of self-esteem. Baumrind (1967) for example, found that parents who make maturity demands, enforce limits firmly, and are responsive to reasonable and valid objections from their children, have offspring that are differentially high in self-reliance, competence and self-acceptance. These latter factors are intricately intertwined with self esteem.

Permissiveness, praise and popularity as things in themselves do not produce inner self-esteem as defined here (see Coopersmith 1976:198; Bookover, et al., 1965; and Weiner, et al., 1971). As Coopersmith argues, in a permissive environment the child often feels uncertain or negative about his judgements and without standards to refer to he often feels uncertain of his strengths and skills... although a young child may exercise certain skills in exploration that are not emphasized in the traditional classroom, he may not focus enough on any one area to arrive at an accurate, positive concept of his abilities.

Research has recurringly confirmed the notion that feedback regarding the consequences of ones actions or learning, is a critical factor in the development of competency and self-esteem (Sorenson and Franks, 1972:187 for a brief summary of research at this point).

Thus, one condition for producing high self-esteem in the classroom, as with the home, is the existence of explicit limits that are defined early in the process and enforced with consistancy. These limits define acceptable behavior, provide standards of conduct and establish expectations of the student's role in the classroom (Coopersmith and Feldman, 1974:203).

A further prerequisite of needed structure is the development of evaluations of the student's work--feedback as to where they are on the right and wrong track in relation to their intents and efforts. Student contracts and evaluations taken place in their context represent the type of commitment to a goal and feedback that allows one to test and accurately assess their self-powers.

A third factor in producing self-esteem has to do with teacher expectations. Rosenthal and Johnson, 1968, have pointed to the self-fulfilling prophecy that flows from teacher's beliefs regarding the grade level of students, while Bookover, Erickson, and Joiner, 1967, have demonstrated the significant effect on children communicated by teachers demands. Students who are not expected to learn are deprived of the source of self-esteem resulting from an authentic knowledge of their capacities.

The common emphasis on freedom of choice in one's curriculum--student choice as to the what, when, where, how, with whom and by what date only accomplishes its goal if it is performed in the context of a contract negotiated by the teachers who will hold the students to these conditions. Otherwise the student never learns the consequences of his choices. Unless the choices are his however the child can not derive the sense that he is his own source of reward and motivation. He can not learn to be a self-learner if he is trained to do what he is told by someone else who then may or may not give certain rewards. Self-esteem based on this latter type of motivation is precarious and unstable compared to the kind that stems from feedback from the consequences of one's own self chosen actions. (White 1965:203).

It is helpful to note in Coopersmith and Feldman's 1974 article on fostering self-esteem in the classroom, that the most commonly mentioned reasons they give for the necessity of the recommended practices have to do with "attribution" (as used in attribution theory; see Marolla and Franks, 1976) That is, the child must be given every opportunity to attribute the consequence of his actions to himself and to learn what is involved in achieving an autonomy in gaining rewards. It is only in this way that self-learning can be developed.

Since there is no theoretical or empirical reason to think that permissiveness would lead to the type of inner self-esteem conducive of self-learning, the scale especially designed for the unique interests of this study included a "limits" sub-scale as well as a freedom scale. The first limits scale was referred to as "Control Quality" and the second was "Control Amount." The first described limits and constraints aimed at furthering self-esteem as described briefly above while the second measured authoritative constraints essentially functioning to control the behavior of the children in such a way that external (adult) standards would be (as much as possible) guaranteed. While the latter is keyed to maintaining order and conventional standards, the other is keyed to perpetuating self-esteem. Though the two are certainly not exclusive of each other, a different premium is placed on either self-esteem or order by the two control styles.

Contents of the Scale

The complete scale is presented in Appendix 1 along with the data generated on each school. The items are divided into two parts with two other subdivisions in each part. Thus Student Freedom includes thirteen items making up Choice and thirteen items comprising Learning Activities. This makes twenty six items in the Student Freedom dimension. The second part of the check list is Adult Control subdivided into quantity and quality as described above. Each subdivision has six items each making twelve items in Part II--Adult Control. Thirty eight items make up the complete check list. The observers complete each item by marking to what extent the factor exists in each school on a five point Lickert scale.

Examples of Student Freedom Part A (Choices) are as follows:

1. According to curriculum lists or analogous written forms available to the students, rate the variety of learning activities offered by the school.

2. How much invlovement do students have in determining curriculum content (organized learning activities offered to the student body).

3. To what extent is there unscheduled learning activities that are initiated by the individual and/or teacher, i.e., to what extent are children able to chose their own unscheduled learning activities?

4. How much choice do students have in determining the listed subjects in which they will participate?

5. To what extent do students participate in evaluating their own performances on school work?

These items were chosen to illustrate what can be seen as the particularistic nature of these items. Most of the schools in this study had a written catelogue of subjects (math, language arts, reading) and felt that the children had to spend some time on these basics (See Berlak, et al., 1974, for a description of the British tendency on this regard even in their "open" classrooms). Within these constraints however there were various degrees of freedom offered by the schools in terms of the "hows," "wheres," and "with whoms." Some open education adherents would argue that listed activities are antithetical to open education but these researchers find little base to resolve such an issue. Where there is no research indicating that a certain feature of the environment fosters certain goals we will tentatively consider the agrument nominal and not resolvable in any manner known to us. This is the case with the feature described above, i.e., subject offerings. Our task here is to tailor the items to reflect individual aspects of these schools, since all schools have unique qualities. Other scales used in this research reflect other definitions of openness. For example the Walberg-Thomas scale has an item that treats the existence of "subject matters" in the schools as indicative of traditional rather than open. It is to handle this type of question that we also utilized his scale as well as the Truab, _et al_., scale. The purpose is not to quarrel over the definitional problem, but to describe the actual independent variables in this study to find out what has effects. A school that fosters open school goals is in effect open regardless of what label is given to it.

The next thirteen items make up Part B under _Student Freedom_. This sub-scale is entitled _Learning Activities._ Examples of items are given below:

1. Is the teacher an individual--facilitator rather than a "class-lecturer?"
2. How often are assignments given to the class as a whole?
3. Is flexible movement of furnishing and equipment in evidence?
4. To what extent do students take the role of teacher vis a vis their peers; i.e., to what extent do they learn from each other?
5. Do students of different age and/or class levels mix together in the same room?

Part II of the FLOS scale was concerned with two subdivisions of limits, structure and constraint. Quality Control concentrates on affixing responsibility and developing guidelines and standards so the children know the rules of the game and can apply them to their own behaviors instead of keying on rote authority. Examples of these six items are:

1. Can the children tell the observers how they can evaluate the work they are engaged in? Do their responses indicate that they will know what they are doing right and wrong?
2. Do the children have clearly written contracts for their learning activities? Upon request can they repeat the conditions of their contracts
3. Does the teacher regulate the classroom by appealing to reason rather than appealing to authority, threats of punishment, or shame tactics?

Examples of Control Quantity are as follows:

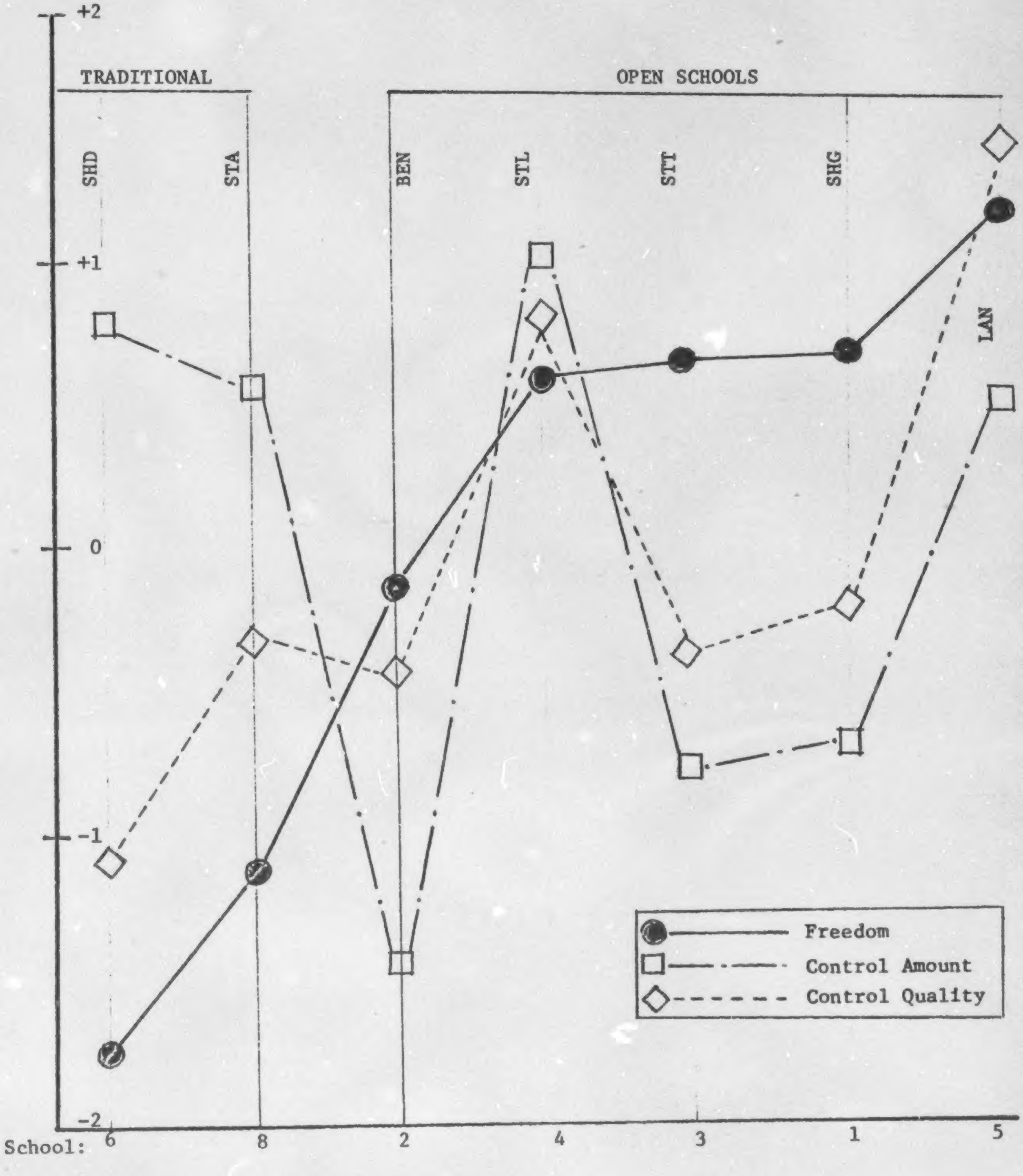
1. To what extent is "off task" behavior in overt evidence in the classroom?
2. To what extent are rules imposed on the children without explanation or input from the children?
3. To what extent does the teacher, independent of the student, plan and schedule the child's activities throughout the day.
4. To what extent does the teacher dictate the solution to interpersonal quarrels without involving the students in determining the solution?

Graphs 1 and 2 depict the schools as described by three dimensions of the FLOS scale.

Two main observers visited the schools on an average of twice a week for the first year of the study. At these times they observed and inquired about the programs from administrators, teachers and students. A third

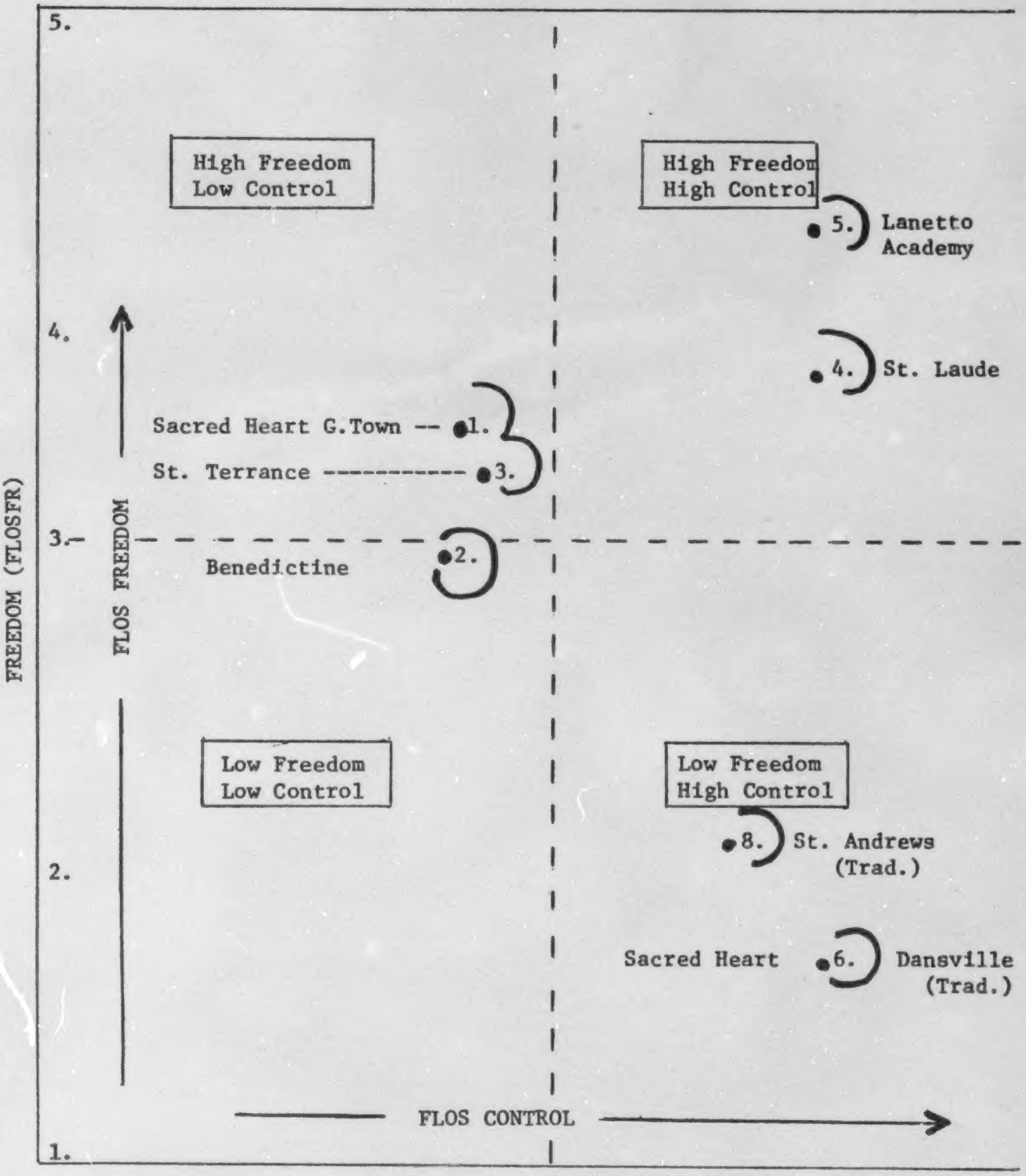
GRAPH 1

FLOS Program Implementation
Scores-3 Dimensions, z- Score graphs
1973-74



Graph 2

FLOS FREEDOM AND CONTROL
Raw Score School Means
1973-1974



observer was hired to visit each school for one day and fill out the FLOS check list. The three observers ranked the schools relative to one another in a remarkably similar fashion. This process was repeated during the second year of the study.

Traub and Weiss Teacher Checklist for Degree of Openness

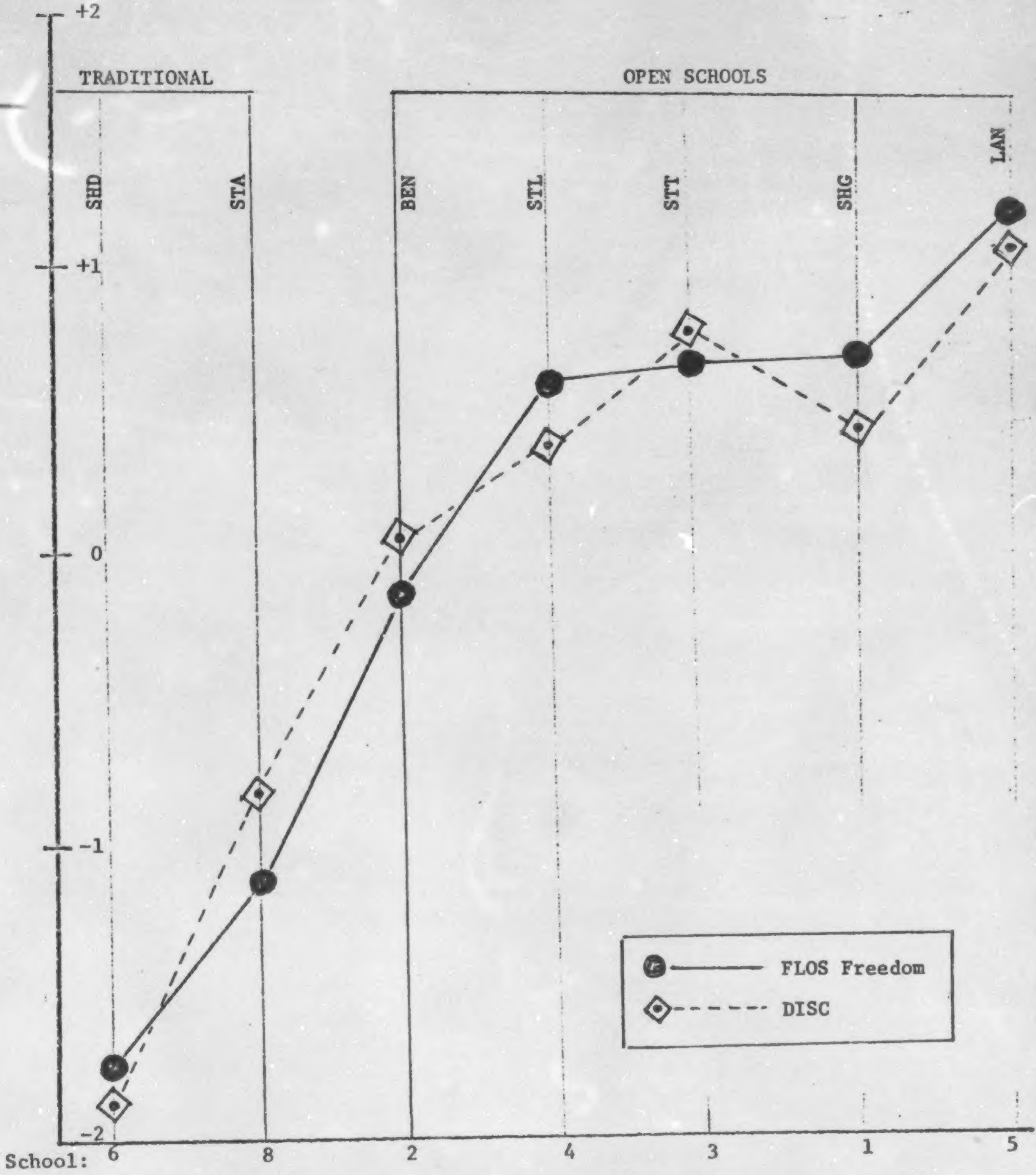
The 30 item DISC II scale developed by Traub, Weiss, *et al.*, at the Ontario Institute for Studies in Education was used as a self-report by teachers and enabled a comparison between the FLOS and DISC scales as well as a comparison between scores from schools in this study and the open schools Traub and Weiss studied in Canada (1972). Eight items were deleted from the original DISC due to their lack of scaling properties. In terms of concurrent validity, both scales resulted in similar rankings of the open schools in this study. While trained observers completed the FLOS check list, the teachers (numbering 35 in all) were the source of data for the DISC. Graph 3 portrays a remarkable overall argument between teachers and observers in these two instruments. Note that the comparison is made for FLOS *Freedom* Dimension only (26 items).

Dimensions making up the DISC scale were as follows:

1. Setting Instructional Objectives
2. Materials and Activities
3. Physical Environment
4. Structure for Decision Making
5. Time Scheduling
6. Individualization of Instruction
7. Composition of Classes
8. Role of Teacher

GRAPH 3

Comparison of FLOS Freedom and DISC
z scores
School Means
1973-74



9. Student Evaluation
10. Student Control

The Walberg-Thomas Observer's Checklist

The Walberg-Thomas Observer's Checklist (fifty items) is a widely used instrument containing the following dimensions:

1. Instruction - Guidance and Extension of Learning
2. Diagnosis of Learning Events
3. Evaluation of Diagnostic Information
4. Humanness - Respect Openness - Warmth
5. Seeking Opportunity to Promote Growth
6. Assumptions - Ideas about Children and the Process of Learning

As seen in Graph 4 the Walberg-Thomas checklist is also similar in results. However, since both are completed by the same observers it doesn't have the advantage of convergence despite different kinds of raters as in the DISC - FLOS comparisons.

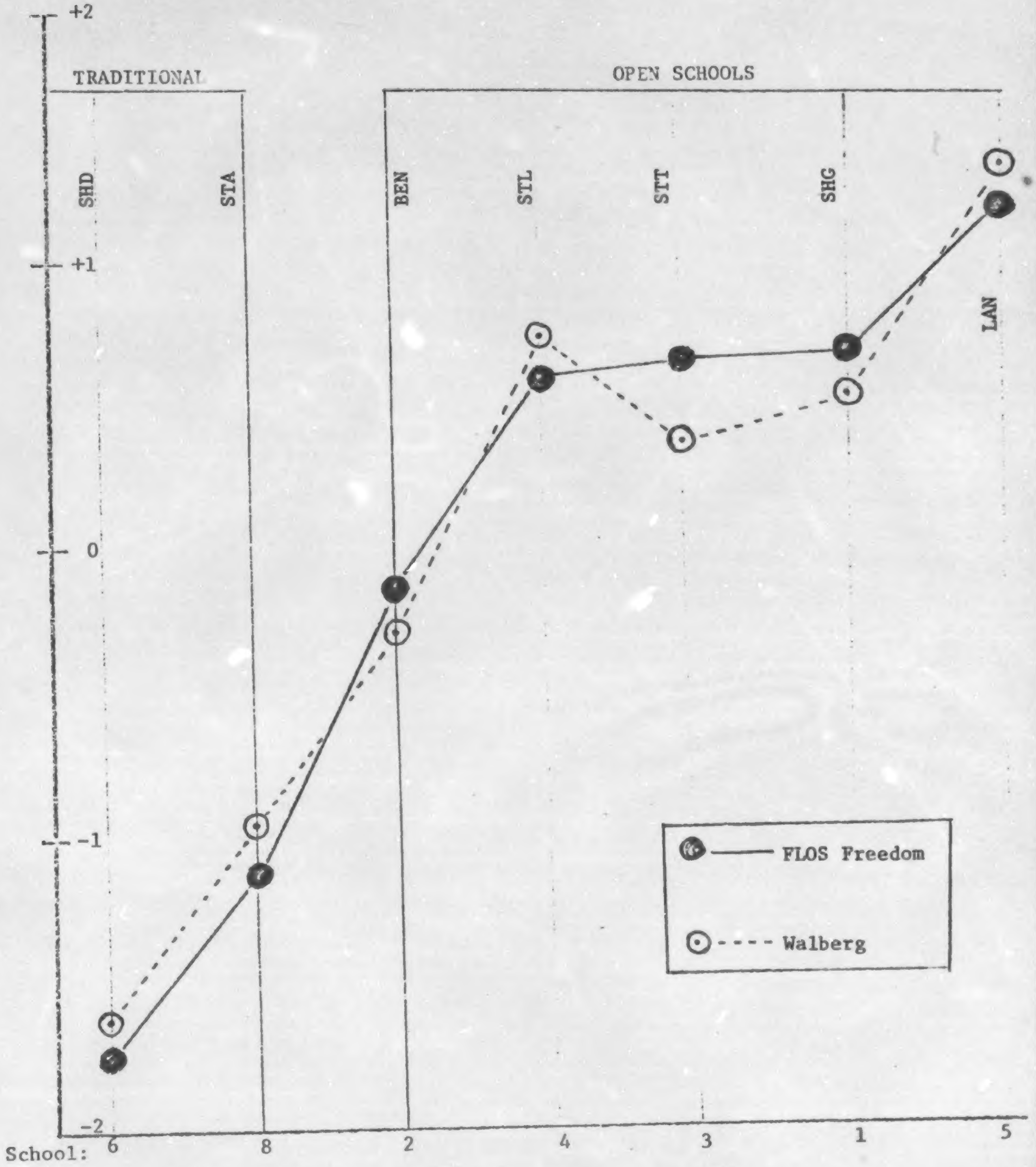
The traditional schools in this study were below the means of traditional schools found by Judith Evans, 1971, in her study (using the Walberg-Thomas scale) of the U.S. and Britain. While our least open school (St. Benedictine) did not compare with the open schools in the Evans study, the rest were quite similar to the open schools studied by Evans. Thus, according to the DISC and Walberg-Thomas scales, four open schools in this study can be seen as comparable to open schools in the United States and Britain--at least on these measures.

The other critical finding from a comparison of the three scales is a confirmation of a five step ranking from Traditional to Open:

$$\text{TRAD . . } \begin{cases} \text{1. Sacred Heart Dansville} \\ \text{2. St. Andrews} \end{cases}$$

GRAPH 4

Comparison of Walberg and FLOS Freedom Openness Scores
School Means - z Scores
1973-74



3. Benedictine
OPEN . . . . 4. St. Laude, St. Terrance, Sacred Heart Dansville
5. Lanetto Academy

Regardless of the similarity of the 3 schools in step 4 above on total scores, they are different in important respects. For example school #4 differs from schools #1 and #3 in the control dimension of FLOS. (See Graphs 1 and 2). Other differences can be noted in the discursive descriptions of the schools preceeding this chapter and on the SIP and McPartland scales discussed below.

McPartland-Epstein Scale; Content

The McPartland-Epstien Instrument (1973) measures the student's perceptions of Openness. It is used in this study as an intervening variable mediating between the FLOS scale and student outcomes. While it is very true that children can see things that adults may not, a heuristic decision has been made to use the teacher and the observers check lists as indicants of school structure and to use the McPartland-Epstein instrument as the student's perception of this structure. Though focus in the main analysis is on the students, teachers also completed this scale.

The scale used here is purposely limited to the organization of the instructional program and is not as broad as the other instruments. Another characteristic of this scale is reflected in the last item - #7: "I could fall behind in my work without the teacher finding out about it for a couple of weeks or more." This is a permissive item that indicates a lack of structuring since a positive score meant "more open." Unfortunately, a decision was made to leave this item out since it did not reflect the way the schools in this study intended to implement their programs. Furthermore, there was no reason to theorize that this would facilitate self-esteem (Coopersmith and Feldman 1976:192). On retroflect, including this "permissiveness" item as a variable indicating a lack of structure could have been very useful. Be this as it may, this particular scale is seen as supplementary, not an equivalent of the three broader measures described above. *Perception* of structure, it must be remembered, is a qualitatively different variable from structure *per se*.

Seven main questions on the student survey asked about various aspects of the organization of the instructional program. Each question was repeated four times, to refer separately to each of four academic subjects. The first of these seven questions appeared in the following form on the student questionnaire.

> Read each sentence below. Then, for each of the subjects listed, *check* the line that tells *how often* the statement is true for you in each subject.
>
> 1. In class, I must *sit* next to the same students.

	Always	Often	Sometimes	Seldom	Never
English	____	____	____	____	____
Math	____	____	____	____	____
Social Studies	____	____	____	____	____
Science	____	____	____	____	____

The remaining six questions, which also followed the same subject-specific format, were:

2. I can *talk* to other students while I work.
3. In class, I can *move about the room* without asking the teacher.
4. In class, the teacher stands in front of the room and works with the *class as a whole*.

5. When I am working on a lesson, the other students in my class are working on the same lesson.

6. Most days there are several assignments the teacher tells me I could select, and I choose the one I want to work on.

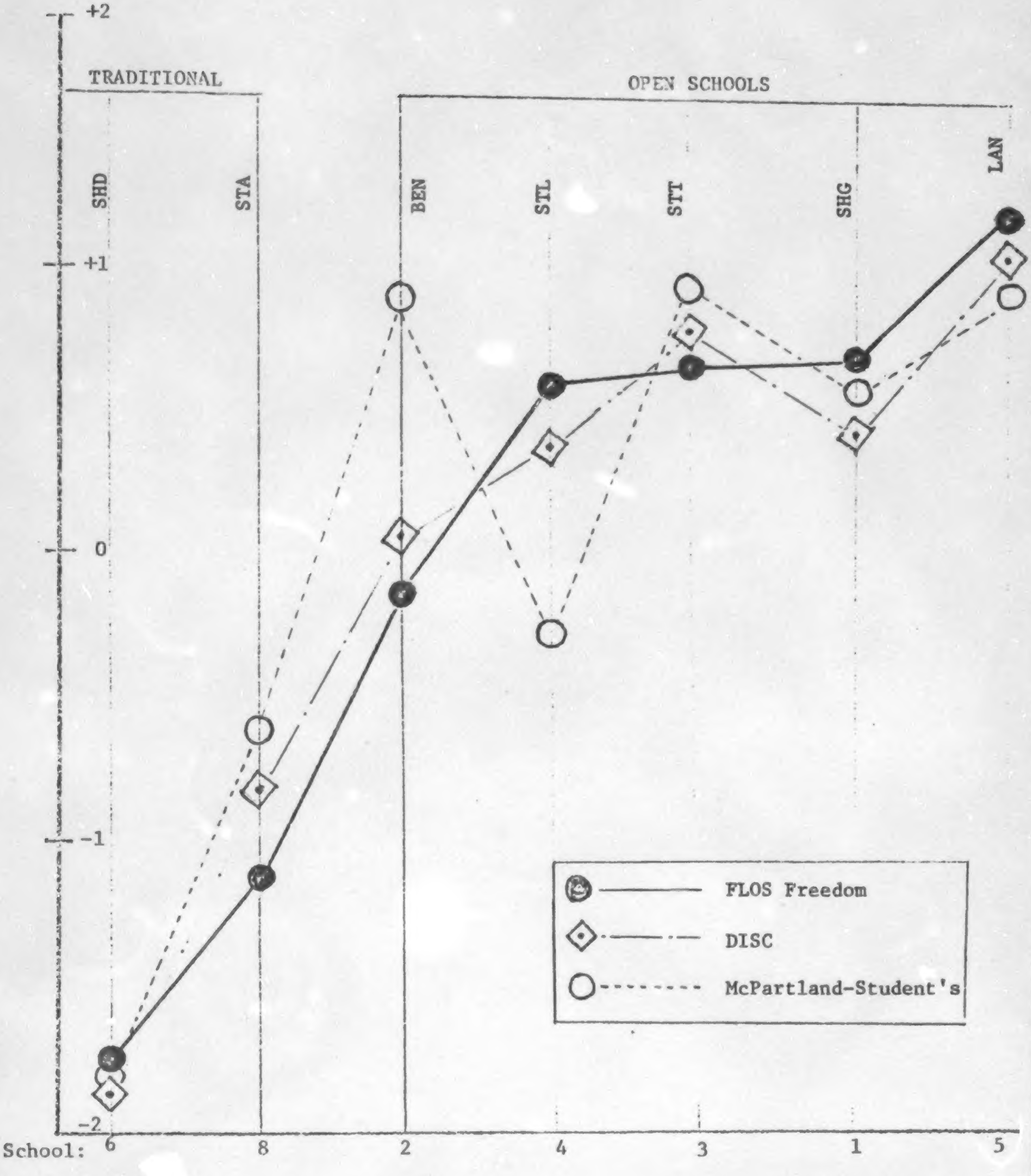
(Excerpted from McParland and Epstein, 1973:24).

Findings. As would be expected, the McPartland-Epstein Scale differentiated between Open and Traditional school types in this study but it did not parallel the rankings within the open school group (see Graph 5). When the teacher and student scores on this scale are compared, it is interesting to note the teacher's uniform tendency to rate the schools more open than the students (see Graph 6). The largest disparity here is in St. Laude where the students rated it not much higher than those in the more progressive traditional school. Finally, the McPartland-Epstein scale, when completed by the teachers, generally coincided with the FLOS, DISC, and Walberg rankings, except for Lanetto Academy. It is the student's perceptions that diverge at least in three schools--Benedictine, St. Laude, and Lanetto.

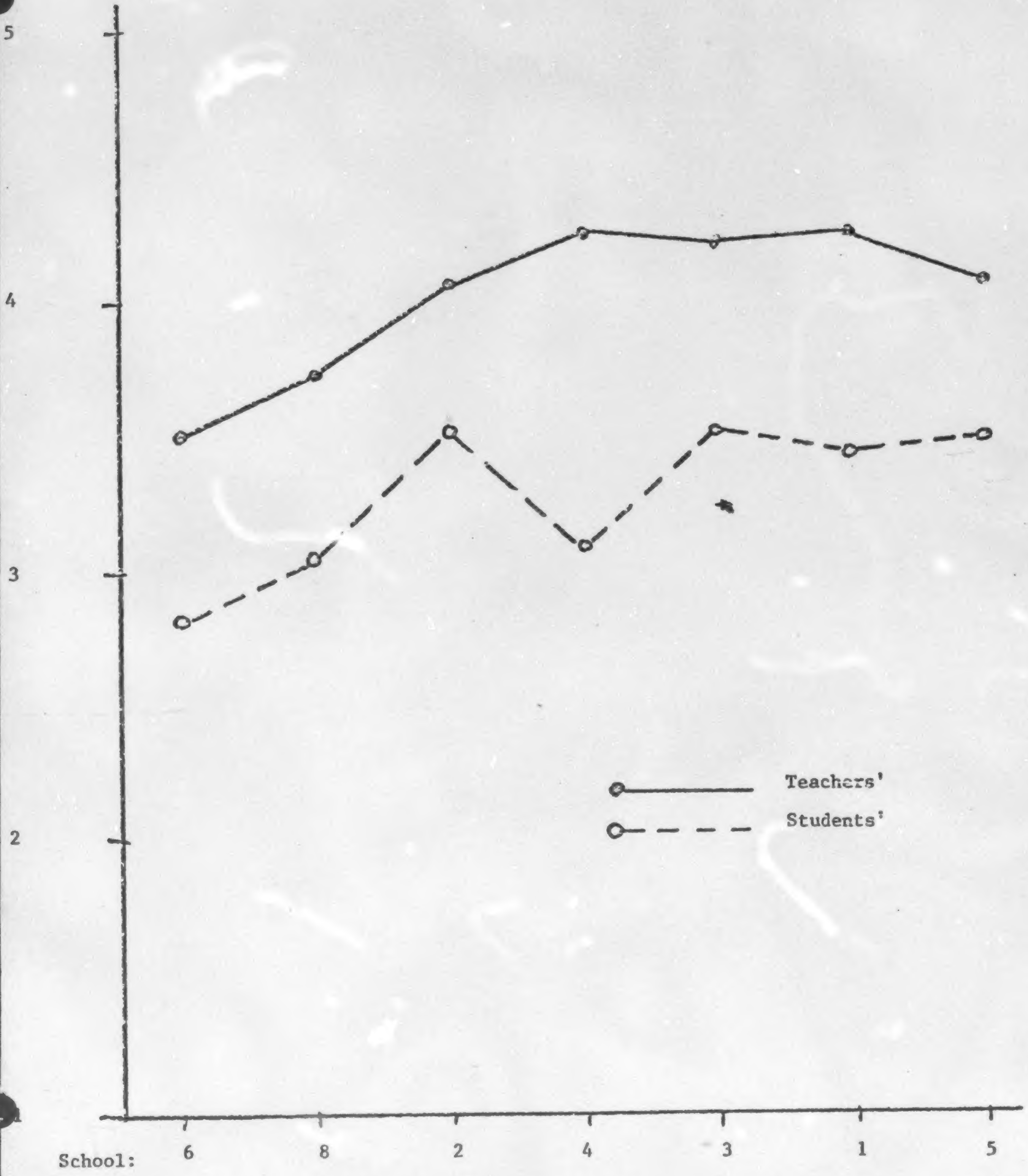
The Congruence of Student's Self-Conception and Roles offered by the school as an Indicant of Intrinsic Motivation and a Facilitation of Inner Self-Esteem. The weight of sociological research has focused on pre-existing roles as the fashioner of an encumbant's subjective conceptions of who he thinks he is, as well as his overt behavior. This particular dimension of the relationship between self and role is referred to by Backman and Secord (1968:289) as the "fashioning effect." As they point out, when the analyst views this effect as the exclusive attribute of the self-role relationship,

GRAPH 5

Comparison of FLOS, DISC, and McPartland Teacher's & Student's z Scores-School Means
1973-74



GRAPH 6
McPartland School Openness Scale
Comparison of Teachers' & Students'
Raw Score-School Means
1973-74



the individual becomes simply the passive result of whatever a given role structure affords. Sociologists have long argued for the "advisory" rather than "determinate" nature of social structure (See for example Buckley, 1967; Berger, 1963; Blumer, 1961; and Turner, 1962) but too often this statement remains on the theoretical level, and does not get translated into operational constructs that reflect such concerns on the research level. A less partisan approach calls for the development of operational constructs allowing for the investigation of role-related processes constraining and influencing the individual, along with those processes in which individuals are themselves causal agents in the self-role relationship.[1] The assessment of which one is most "important" causually can then be evaluated, and qualified by empirical input. Backman and Secord (1968) have provided two constructs helpful in avoiding an exclusive focus on the fashioning effect in self-role research: role selection and role portrayal. "In role selection, a person chooses roles that allow him to behave in a manner compatible with self; in role portrayal, when the role provides wide latitude for enactment, he favors the portrayal that is most consistent with self." (Backman and Secord, p. 289, and Travisano, 1974)

These same authors have presented findings supporting the tendency for persons to select roles and performances congruent with prior self-conceptions (Backman and Secord, 1968) and other evidence goes beyond this to suggest that individuals perform best in roles congruent with one's self-conceptions.[2] This study deals with the differential subjective consequences of role performances congruent with salient self-conceptions, specifically in how they tend to produce different types of self-esteem--e.g.,"inner" and "outer."

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[1] By no means should this be taken as an attempt to minimize the import of the fashioning effect on a priori grounds, or any other for that matter. The point is simply that other independent variables are needed to allow for the possibility of finding different kinds of determinates for social behavior involving the area of self and role. The failure to develop such constructs guarantees a priori that other determinates will not be identified and thus be "lost" under the label of "measurement error" or "variance otherwise not explained." Such a failure throughout the field would represent a bias, regardless of the level of methodical sophistication utilized in establishing the scaling attributes of the existing measures.

The field context of this research is a comparison of two types of elementary school organizations. One represents a social structure with fixed and pre-existing roles forced on students quite independently of choice of any kind. In many cases, the roles require performances antithetical to sex related self-conceptions. In contrast to the "forced" role structure of the traditional schools, the social organization of the innovative school environments allow for a great deal of choice in terms of school activities made available. This allows an empirical phenomenon producing a performance situation in which sufficiently large numbers of students are allowed to perform in roles congruent with their salient self-conceptions and a large number of other students will remain that must perform in roles incongruent with or irrelevant to their self-conceptions. This provides a natural situation that offers the necessary contrasts for exploring the effects of different structures in this study.

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[2] Throughout this report and especially at this point, one should be reminded of Nelson Footes' old, but still viable, paper "Identification as the Basis for a Theory of Motivation," ASR, 1951. Footes' contention that "identification with a situation generates energetic involvement" seems to have at least some current empirical support in the research reported herein. Though this report does not focus on the highly problematic concept of motivation, its' emphasis on self-role congruency owes a great deal to Footes' article and is relevant, it seems to us, to the general concerns of Footes' famous paper.

Operational Procedures. Students were requested to circle seven social roles (helper, artist, good dresser, mechanic, tough guy/girl, etc.) out of a list of thirty, that were--in their own judgment--important for them to be or do (see Appendix A4). These were conceptualized as salient self-conceptions and referred to as SIP--Salient Identity Pegs. The thirty "identity pegs" were derived from suggestions by teachers, principals, and students as well as by the authors. Next the students were asked to evaluate themselves on the SIP's circled, giving individual scores for self-reported evaluations on SIP's. Students were then asked to state the amount of time the school allowed them to perform in their chosen salient identity pegs. This gave a measure of amounts of congurent roles offered in the seven schools. Finally, students were asked to check spaces describing how well they felt they performed in all thirty roles listed. Students were told they could add their own items to the lists presented.

This resulted in four self-conception related measures:

1. Salient Identity Pegs--SIP
   (These were also ranked for each individual.)
2. Self-reported evaluations of performance on SIPs.
3. Opportunities to perform in SIP's afforded by the school social environment.
4. Self-reported evaluations on all thirty identity pegs offered by the questionnaire.

Thus, from these data it was possible to derive a measure for each school indicating the degree to which it offered available performance roles congruent with salient self-conceptions.[3]

It was noted by the administrators of the questionnaires that the children enjoyed the exercise and were not aware of its purpose. Thus threats to internal validity from the extraneous variables of test-fatigue and reactive measures were believed to be minimized.

Findings

Graph 7 describes the schools in terms of the congruency between the roles they offer and the student's salient self-conceptions. These are then compared to the schools as ranked by the FLOS freedom scale. Though the two instruments measure different aspects of openness, the similarity is discernable and there is strong between school type differences. St. Terrance does have a stronger demand placed on academics relative to the other open schools and insists that alternatives and choices come only after the basic academic requirements. This must be seen as a tentative interpretation since it is after the fact and should not be allowed to minimize the strong open features of the school within these constraints.

Conclusions

Most of the analyses in the preceding chapters leans heavily on the

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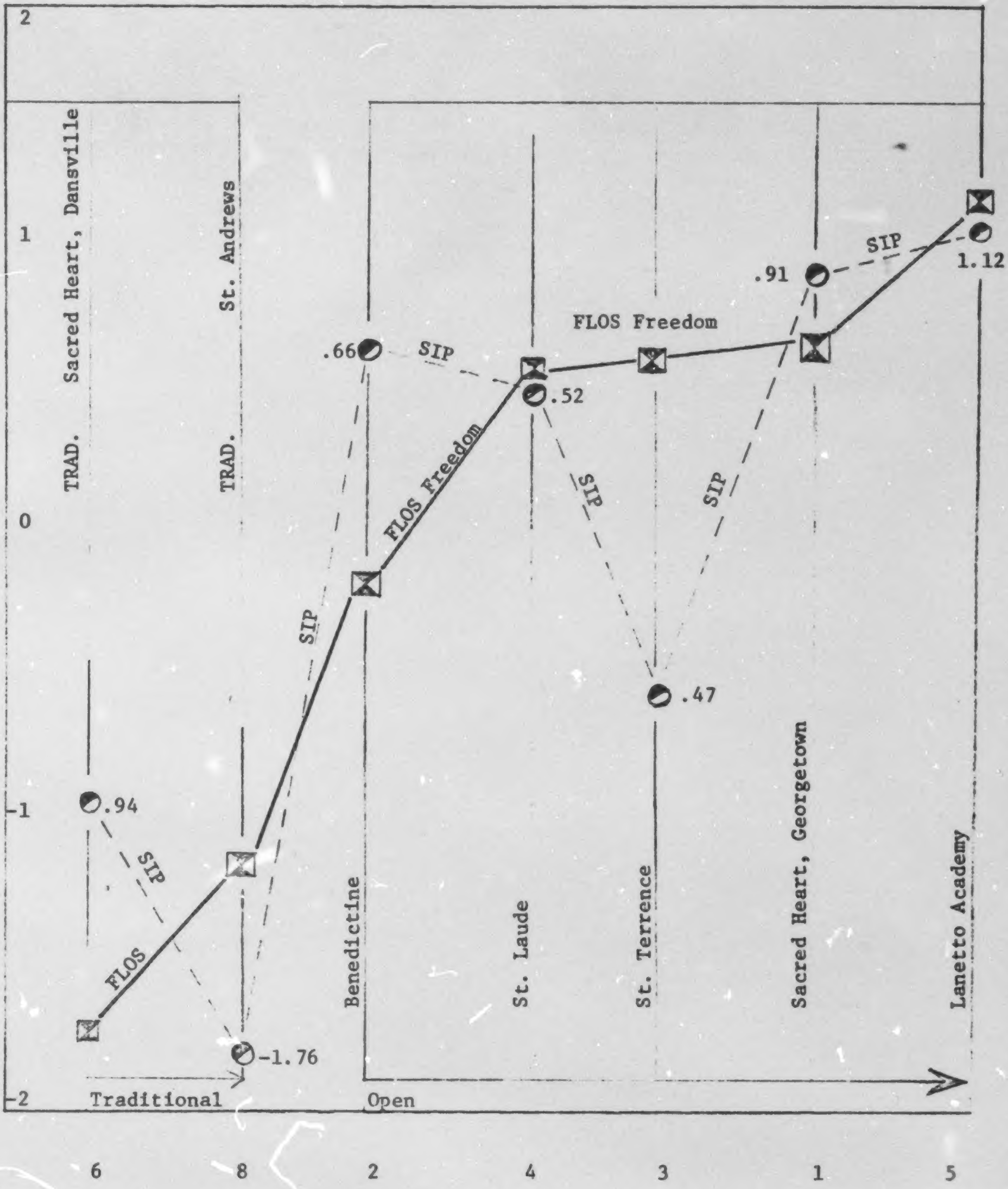
[3] Code names on the various measures generated by the above are as follows and appear in tables throughout this work. SIP QI (Q stands for "qualifier," self-evaluation of performance on SIPs, high score equals low evaluation); SIP QII (number of role opportunities offered by school congruent with SIP, high score equals few opportunities); SIP QIV (number of role opportunities offered by school congruent with all roles listed, high score equals few opportunities); SIP QV (self-evaluation on all roles whether salient or not, high score equals low evaluation).

GRAPH 7

Student's Perceptions of Opportunities
Offered by the Schools to Enact Salient
Self-Conceptions - Compared to FLOS Freedom
Z scores, School Means. 1973-1974



FLOS scale. This decision was made after a systematic deliberation of its' merits and limits. It must be remembered that the scale was tailored to capture variance exhibited by these schools and is not primarily a scale to measure openness in any and all schools. Since it does indeed parallel two other scales designed for such a purpose, the FLOS scale can not be faulted too much on this ground.

Only three observers completed the FLOS instrument but they literally spent the working hours of the weekdays in these schools in one role or another. The field office for this research was indeed located in one of the schools. Again, since the observers converged on scales derived from teachers and to a lesser degree student responses, it seems that such an in depth approach, which is rare in studies like these, was an important asset--especially in light of the convergent validity generated by the various scales.

CHAPTER IV

STUDENT OUTCOME MEASURES

This chapter describes the outcome variables used as criteria to compare the effect of the open and traditional schools on their respective student bodies. Twenty-three measures were utilized in an attempt to strike a balance between instruments that, because of popular usage, would offer a comparative base nationwide to these findings and instruments designed to measure outcomes of specific theoretical concern to the authors of this report. The Marolla instruments tapping personal competency (inner self-esteem), Looking Glass Self (outer self-esteem) and self evaluations on roles offered by the schools congruent with salient self-conceptions of the individual students, are examples of measures tailored specifically to test theoretically derived hypotheses regarding the effects of these open schools on student's self-esteem. On the other hand, the Iowa Test of Basic Academic Skills, the Coopersmith and Waetjen-Liddle self attitude scales are widely used instruments allowing a comparison with these students and others in the country.

Most of the instruments are made up of student's self-reported answers to items regarding how they think and feel about themselves in various areas of life - school performance, popularity, confidence, general feelings regarding adaptation to teachers, etc. Sixteen of the measures reported here were comprised of such self-reports. Behavior was measured by three different techniques: (1) behavior rating forms filled out by the teachers on each child (2) Iowa Test of Basic Skills which is a direct measure of one kind of academic performance and

(3) observations of children while they worked on a task designed to measure cooperative skills. Various measures from sub-categories generated by these three techniques are also available.

Wherever possible, responses to the instruments were factor analyzed and measures of internal consistancy were generated. Items that did not correlate with total scores were depleted. An attempt was made to evaluate items in regard to a desirable balance between homogeneous and heterogeneous items. This is reported technically in form of Crombach's Alpha and homogeneity ratios for all measures lending themselves to such calculations (see Table 2). See also Appendix 5 for item by item analysis of each instrument discussed here.

Special attention was given to the most effective ways of administering questionnaires and much of the pilot study time was given to finding out ways that the items were interpreted by the children. When discrepencies were discovered between student interpretations and meanings intended by the researchers, these were clarified in the following administrations of the questionnaires. This was especially important since some of the lower income children in the inner city schools were below the national norms in reading ability.

A Factor Analysis of all self-report instruments was undertaken to find out which ones clustered together. Four clusters resulted from this: General Self-Esteem, School Related Self-Esteem, Attitude Toward School and Self-Reliance. Each student was given a total score on these "composite scales." In this way the analysis of school effects on outcomes was simplified greatly (see Table 3 for attributes of composite scales and the various scales that make up these composites).

The rest of this chapter consists of a brief description of each scale and it's significance to the project.

The Coopersmith scale was chosen because of its wide use around the country which aids in the comparability of these findings to other open school studies. Not only was it created by one of the leading researchers in self-esteem, but it factors into different dimensions of self-esteem which was thought to aid in a more specific and detailed analysis. The results of the factors analysis derived from the students studied here are presented in Appendix 5a.. Despite the fact that the total scale had acceptable scaling attributes, only two subfactors had an internal consistancy estimate of over .60. These were the school related SE and the parent-family related SE. The Coopersmith lie scale (a sub-component of the Global Self-Esteem Scale), which was intended to help eliminate invalid responses, had a remarkably low internal consistancy measure of .30! "Peer Self-Esteem,""Decisiveness" and "Low Self-Esteem" were labels placed on other clusters but the internal consistancy of these factors were too low to use.

The teacher behavior rating form as used by Coopersmith was another way to check unrealistically high self reports on this scale. The strategy was to select those high and low on both self reports and teacher behavior rating forms for the main analysis.

The analysis of the TBR did not lead to a conclusive interpretation and is still in process. One difficulty is that the evaluations of teachers may well be influenced by factors irrelevant to what is purportedly measured. The one consistant correlation of TBR sub-catagories is with ability on the Iowa Test of Basic Skills (NATLPC). But there is no

TABLE 2

Outcome Measures and Scaling Attributes
Classification and Names of Outcome Measures

	Crombach Alpha	Homogeneity Ratio	No of Items	Abbreviations for Tables
I. General Golbal Self-Esteem				
1. Coopersmith Self-Reported Self-Esteem (short form)	.77	.12	31	COOP
2. Coopersmith Teacher Rating Form for Student's Self-Esteem	NA*			TBRF
II. Self-Esteem in Specific Roles and Situations				
1. S.E. as a student (school related S.E.)				
a. Waetjen-Liddle Learner's Self Concept	.82	.14	36	LSC
b. Coopersmith School Related Self-Esteem	.62	.12	6	COOPSC
c. Dillon: School Alienation (children's self-report on belief they can meet standards expected of them by schools	.52	.22	5	DILAL
2. S.E. as a family member vis a vis parents.				
a. Coopersmith, Parent Family Dimension	.66	.39	3	COOPA
III. Self-Esteem Inner and Outer Dimensions				
1. Inner Self-Esteem				
a. Marolla Personal Competence	.64	.20	7	JOCOMP
b. S.E. Power and Ability (potency) Dimensions of Semantic Differential	.63	.25	5	SD/POT
2. Outer Self-Esteem				
a. Marolla Looking Glass Self	.81	.30	10	JOLGS
b. S.E. Evaluative - Moral Dimension of Semantic Differential	.68	.30	5	SD/EVA
IV. Sensed Competency				
1. Chad Gordon's Systematic Competency	.70	.20	7	GORDON
2. Marolla's Self-Evaluations of Performance on Roles Offered by the Schools Congruent with ones' Salient Opportunities	NA			SIPQ2

TABLE 2 (continued)

Sensed Competency (continued)	Crombach Alpha	Homogeneity Ratio	No. of Items	Abbreviations for Tables
3. Same as above for all roles regardless of whether they are salient to self conception or congruent with same (i.e., self reported performance on forced unchosen roles	NA			SIPQ4
V. Personal Autonomy				
1. Marolla Source of Self-Esteem Conform to peer pressure or own standards	.58	.19	6	SOURCE
2. Grout-Wismer Self Reliance from Teacher (in school related activities)	.74	.22	10	GWSR
VI. Social Desirability				
1. Lunneborg & Lunneborg Children's Social Desirability Measure	.68	.10	14	SOCDES
VII. Attitude Toward School				
1. Traub and Weiss Attitude Toward Teachers	.87	.32	14	ATT
2. Traub and Weiss Attitude Toward School (from the Ontario Institute for the Study of Education)	.86	.29	15	ATS
IX. Academic Achievement, Standardized Tests				
1. Iowa Test of Basic Academic Skills				
a. National Percentiles	NA			NATLPC
2. Standardized High School Placement				
a. Composit Percentile for 8th grades only	NA			COMPOS
b. I.Q. Score, 8th grades only	NA			IQ
X. Ability To Work Cooperatively				
1. Bavelas' Broken Squares Cooperative Skills Group Exercise (1953)	NA			
a. Number of pieces given by group				
b. Number of squares given by group				
c. Number of withdrawals				
d. Number of pieces giver per individual				

* Not Applicable

TABLE 3

Scaling Attributes for Four Composite Scales (Superscales) Constructed from 16 Original Outcome Measures

Superscale 1: GENERAL SELF-ESTEEM (GENSE)

1. Internal consistency	.80	
2. Homogeneity ratio	.41	
3. Number of items	6	
4. Mean score for total sample	169.12	
5. Standard deviation	21.20	
6. F ratio on school-type difference	13.90	$p \leq .001$

Scales Comprising Superscale	Intern.Consist.	H.G.R.
1. Coopersmith Self Reported General SE	.77	.13
2. Semantic differential SE potency (evaluative)	.63 (.68)	.25 (.30)
3. Personal Competency, Marolla	.64	.20
4. Looking Glass Self, Marolla	.81	.30
5. Chad Gordon's Systematic Competency	.70	.32

Superscale 2: SCHOOL RELATED SELF-ESTEEM (S/RSE)

1. Internal consistency	.63	
2. Homogeneity ratio	.36	
3. Number of items	4	
4. Mean score for total sample	160.13	
5. Standard deviation	32.05	
6. F ratio on school-type difference	34.67	$p \leq .001$ females higher than males $p = .05$

Scales Comprising Superscale	Intern.Consist.	H.G.R.
1. Waetgen-Liddle, Learners' Self Concept	.82	.14
2. Dillon, Self Reported Ability to Meet School Standards	.[illegible]2	.22
3. Marolla, SIP_1 Self Reported Performance on 5 Salient SCs	Not Applicable	
4. Marolla, SIP_5 Self Reported Performance on All Roles	N.A.	

Superscale 3: SCHOOL ATTITUDE (SCHATT)

1. Internal consistency	.75	
2. Homogeneity ratio	.45	
3. Number of items	4	
4. Mean score for total sample	85.99	
5. Standard deviation	19.85	
6. F ratio on school-type difference	94.35	$p \leq .001$

TABLE 3 (continued)

Superscale 3 (continued)

Scales Comprising Superscale	Intern.Consist.	H.G.R.
1. Weiss, Traub *et al.*, Attitude Toward School. . .	.86	.29
2. Weiss, Traub *et al.*, Attitude Toward Teacher . .	.87	.32
3. Marolla SIP_2 Time Allowed in Roles Salient to Self-conceptions*	N.A.	
4. Marolla SIP_4 Time Allowed in all Roles on Questionnaire*	N.A.	

*Students' self reported perceptions.

Superscale 4: PERSONAL AUTONOMY (AUTON)

1. Internal consistency	.44		
2. Homogeneity ratio	.28		
3. Number of items	2		
4. Mean score for total sample	41.32		
5. Standard deviation	8.38		
6. F ratio on school-type difference . . .	5.09	$p \leq .05$	Whites higher than Blacks p = .05

Scales Comprising Superscale	Intern.Consist.	H.G.R.
1. Marolla, Inner-Outer Source of SE.	.58	.19
2. Grout, Wismer, Autonomy From Teacher	.74	.22

Superscale 5: Achievement on National Percentile in Iowa Test of Basic Skills Composite Score.

SUPERSCALE INTERCORRELATIONS

	GENSE	S/RSE	SCHATT	AUTON
GENSE		.27	.33	.49
S/RSE			.61	.16
SCHATT				.07
AUTON				

way to determine whether this is because of a bias of the teachers in favor of children scoring high on ability, or an accurate reading of self-esteem which then influences ability. On the other hand there was only a minimal correlation between the children's attitude toward Teacher and TBR scores.

During the second year of the study the questions were changed in the TBR resulting in the following catagories. See Appendix 5b and 5c.

1. Self-Esteem
2. Self-Reliance
3. Achievement
4. Ability
5. Cooperativeness
6. Approval Need
7. Defensiveness

This scale led to findings that were similar to the original TBR.

The Learner's Self-Concept scale (LSC) was designed and copyrighted in 1967 by Walter B. Waetjen. This is another scale that is used nationally. Part of the .42 correlation between this instrument and scores on the Iowa Test of Academic Skill is due to the role-specific nature of these items, measuring as they do self-esteem narrowed to the student role. The instrument is a rating scale containing 50 items arranged into four subsections dealing with problem solving ability, motivation, task orientation and class membership. Liddle revised the scale for younger students.

The Grout-Wismer Self-Reliance from the Teacher scale (GWSR) was constructed particularly for this study. Examples of items are: "If I have a report to do, I'd rather have the teacher tell me how to go about it," or "I need the teacher to explain how to do assignments." This scale relies on face validity and an acceptable level of internal consistancy. There are ten items in the instrument.

The Marolla Competency Based Self-Esteem scale (JOCOMP) is an 7 item Likert type scale that demonstrated an acceptable degree of construct validity (Franks et. al., 1974) in preparation for this study. The scale has to do with whether people feel they have succeeded in being what they want to be on their own terms. Examples of items are: "If I have a problem with my parents, teachers or friends I can usually solve it," or "There are a lot of things about myself that I'd like to change but I can't" (negative response = hi score). The Marolla Looking Glass Self Scale (JOLGS) measures how the subject feels about other's reactions to them--i.e., popularity and social acceptance. This instrument consists of ten items and has a higher internal consistency than the competency scale. A sample of items is as follows: "Other people like having me around," I am satisfied with the way most people treat me," or "Other kids make me feel like I'm not good enough" (negative response = hi score). These two scales tap dimensions of inner self-esteem and outer self esteem respectively.

Another more indirect attempt to tap inner and outer self-esteem was through a revision of the Semantic Differential. The potency dimension (SD/POT) was used to reflect at least a portion of what was meant by inner self-esteem and a revision of the evaluative (moral) dimension (SD/EVA) was used to reflect outer self-esteem. A construct validity study of this scale (Franks and Marolla, 1973 and 1976) gave positive, but relatively weak results in terms of amounts of variance explained. Also the potency measure, as implied above, may be deficient in terms of content validity, i.e., it does not cover a braod enough part of the intended conceptual domain. For example: students are asked to rate themselves in regard to adjective pairs like weak-strong, powerful-powerless, etc. While feelings of potency are one aspect of inner self-esteem, the construct is much broader than that. On the other hand outer self-esteem is only indirectly measured by adjective pairs like dishonest-honest, generous, greedy. This is more a moral dimension of self than a direct or encompassing indicant of outer self-esteem. What these two scales measure is self-evaluations relative to the systematic functionings of instrumental and integrative concerns respectively and these are only indirectly connected with inner and outer self-esteem.

Two other important scales are the Attitude Toward Teacher (ATT) and School (ATS) instruments. These were developed for a large survey of Canadian schools by the staff at the Ontario Institute for Studies in Education. Examples of items are: "Many teachers enjoy giving students a hard time," "Most teachers try to be fair with students," "Teachers usually take an interest in my ideas." Items from the school scale are: "I feel good when I am in school;" "I feel terrible each morning when I think of going to school." Internal consistency figures on both scales are high. Each has 15 items. Both correlate relatively highly with each other (.65) and similarly with other variables. For example: the correlation between ATS and ATT with LSC is .43 and .38 respectively; with perception of roles offered congruent with self-conceptions it is .33 and .44 respectively, but this is by far the largest difference between the two in correlations produced.

The Dillon Alienation from School scale (DILAL) is composed of four items and though it has a low Crombach's Alpha (.52) it was retained because of the relevancy of the content. Examples are: "I just do not think

I can do what is expected of me in this school," or "I can't really do as well in school as my teachers expect me to do." The questions really tap the child's belief that he can do what teachers expect of him. As in all cases throughout this study items are reversed when need be, so that a positive score is the desirable in terms of school goals. This scale has a correlation of .51 with the LSC and .41 with the composite score on the Iowa Test of Basic Skills (COMPOS).

Chad Gordon's five item scale (GORDON) was designed to measure personally felt sense of competency among adolescent students. The internal consistency of this scale was adequate. The items were of a Likert variety: "I am able to do most things pretty well," or "Compared to kids my age I know a lot about things." There is reason to suspect that a comparative focus will be used by the student answering these items (and elsewhere) whether the student is asked to take such a focus in the item or not. That is if you ask a child, "Do you go to class often?", he may say, "Yes," despite the fact that he only goes 50% of the time. This can be because his peer group which he uses as a reference point only goes 25% of the time. This social comparison is not necessarily a conscious thing and is not to be confused with a lie in the ethical sense. It is a ubiquitous phenomenon of personal perception stemming from reference group theory, not a pejorative comment. Self-esteem is commensurate with one's aspiration, which is derived most frequently from those with which one identifies. It correlated .58 with the Marolla Personal Competency (to achieve a desired identity) and .41 with the Semantic Differential moral evaluative dimension of self.

The Marolla Source of Self-Esteem scale (SOURCE) was conceived of as a measure of a relatively stable personality characteristic. It's purpose was to distinguish children who looked mostly to concrete persons for their self-esteem and those who looked mostly to their own competencies. This does not assume that all persons go exclusively one way or the other but it could place students in terms of tendencies that may or may not exist in this regard. Along with differences in parental training that are analogous to the schools (authoritarian or more open), this scale was designed to help ask who benefited most from the open or traditional programs. Unfortunately, this scale had a Crombach's Alpha of .58 which indicates questionable internal consistency. Sample items were: "I usually stop doing something I like to do if my friends laugh at me for it," or "I will usually go along with what the group does even if I don't agree with it." A positive score meant that respondents were not totally dependent on peers for their self-esteem. But where they went for it is left open--the assumption is to one's own competencies. The scale did not differ between school types as was expected. It is included in this discussion of possible outcome variables because it is not presented anywhere else in the report.

When the Lunneborg-Lunneborg Childrens' Social Desirability scale (SOCDES) was constructed, they constantly reminded the children to answer in the way that presented them in the best light. This appears to be a classical definition of a "reactive measure." The final items chosen for this scale were selected from such a population of responses. The authors state it is not a lie scale. Certainly it would be expected to operate much like the scales above in that children answer it from the vantage point of what the norm for their peers is. One item states "I like to read about science," another "I like to work hard," or sometimes "I feel like throwing and breaking things." Added to all these should p[illegible]y be: "Compared to my peers," since that is the way some children are reading it. While it was intended to measure a tendency for students to respond in a way that will place them in the best light, it may well act more as a self-esteem measure. Empirically, it factors into the self-esteem cluster. At strategic points in the research, blocking on social desirability did not change the results; so the meaning of this scale is open to question at present.

The school success item (SCHOC) was administered in an interview situation with the students. The children were asked how they determined whether their work was satisfactory. Responses were catagorized into "external" or "internal" standards. Coders were instructed to determine whether responses were given in terms of external authority responses or responses meeting internal standards.

The use of the Iowa Test of Basic Skills is considered an illegitimate outcome measure by many persons involved in open education, since the open school process is not directed toward increasing the particular type of skill reflected in these tests. There are so many types of learning experiences and achievements, that no one instrument could ever measure all the possible events that would fit under the umbrella catagory referred to as academic skills. Granting all of this, the Iowa Test can still be of interest as a measure of a non-anticipated consequence of action. It is not included here as a way of assessing how well the schools meet their own goals, or something that can be referred to as open school goals. The point is to use these tests to see how well they can meet traditional school goals as well as open school ones. If students can be made to like school as well as achieve on currently used measures of achievement we should be interested in this. There is no assumption made here that the Iowa Test of Basic Skills measures skills in any exhaustive way at all.

Included in the Iowa Test of Basic Skills is the ability to manipulate certain words and numbers to understand written materials and making certain kinds of inferences. The test generated scores on reading, arithmetic, and language skills separately. Scores were available for verbal I.Q. and Qualitative I.Q. and ability. In this research three scores were used. The Composite summary score of all these (COMPOS), the ranking in National Percentile (NATLPC) and "I.Q."

Conclusion

Numerous pencil and paper tests were used to measure self-esteem and related concepts as well as attitudes toward school. Composite scales were developed through Factor Analysis in order to simplify these data and are presented in Chapter VIII. Questions making up the scales are presented in the appendixes with internal consistency data for the instruments as a whole as well as each item. A game used to measure cooperative skills was also used as an outcome variable and is presented in Chapter XI. While standardized achievement tests are used in this research, it is with the recognition that these tests measure only a prescribed kind of achievement and are not indicants of open school goals. The affective measures on the other hand are appropriate to open education goals and can be used to evaluate how successful the schools are in attaining their distinctive ends.

CHAPTER V

SCHOOL TYPE, INTRINSIC MOTIVATION AND FEELINGS OF COMPETENCE AMONG STUDENTS[1]

The research presented below represents the hypothetico-deductive part of this study focusing as it does on specific differences in school organizations that would be expected to facilitate different types of self-esteem among the respective student bodies. As such, it stands as a piece and is presented prior to the chapters on the more general evaluation since it focuses on concerns discussed in the first chapter.

Indicants of Intrinsically Motivated Behavior

One of the distinctive characteristics of an adequately implemented open school program is the degree to which the child's own interest is taken as a springboard in arranging and planning his further learning activities. It follows that the social role structures of such schools are more varied--that is, the school structure offers the children "more things to be" in keeping with this individualized focus. The environment, then, is purposely engineered to offer a wider variety of roles and/or identities from which children can select (Sussmann and Schorr, 1973). All of this is in contrast to the traditional school which typically has a limited number of predetermined standardized (or "forced") roles from which the children must select regardless of differences in their individual self-conceptions. The open school with its greater choices of roles, increases the chance that the child will be able to spend a significant amount of his time doing something that he is good at--thus experiencing a feeling of competence that is both intrinsically meaningful and motivating. But more importantly, as Nelson N. Foote argued long ago (1951) motivation increases when one has roles with which he can identify. Foote's model of motivation takes its departure from the shortcomings of the traditional tension release models that also left Bruner, White, and Smith dissatisfied. His general theory seems compatible with the underlying principle expressed in Dante's literary statement:

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[1] The research in this chapter was conducted largely by Joseph A. Marolla, now of the Department of Sociology at Virginia Commonwealth University, Richmond, Virginia. It was reported earlier in the _Journal of Research and Development in Education_ in an issue edited by Donald Myers stressing evaluative research in open education (Oct., 1974). The data reported here are more complete than in the Myers article.

> For in every action what is primarily intended by the doer, whether he acts from natural necessity or free will, is a disclosure of his own image. Hence it comes about that every doer, insofar as he does, takes delight in doing; since everything that is has its own being, and since in action the being of the doer is somehow intensified, the delight necessarily follows . . . Thus, nothing acts unless--by acting--it makes patent its latent self (as quoted from Hannah Arendt, 1958:155).

The theoretical assumption made by these authors is that the overt, interactional accomplishment involved in making manifest what one thinks he would like to be (i.e., his self-conception)[2] is intrinsically motivating, i.e., that it is of reward value in and of itself.

It is further assumed that Foote's attempt to explain the motivational aspects of social roles through the conception of "identification with" is very closely connected to Bruner's conception of identification as an intrinsically rewarding activity that schools should attempt to foster. Therefore, the "goodness of fit" between an individual student's salient self-conceptions and the degree to which the schools offer roles that the students can indeed identify with, can be viewed as an operational indicant of at least one diffuse activity affording intrinsic rewards.

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[2] At this point we are accepting Ralph Turner's definition of self-conception as a relatively stable and enduring picture of the person as he thinks he "really is" and "should" and "could" be, which often edits the more situationally tied self-image that derives from how he sees himself as looking in the eyes of immediately present others (1968:94).

The empirical section of this chapter presents a test of the general proposition that structures offering higher rates of intrinsically rewarding activities will be associated with more positive attitudes about school as well as having a higher proportion of inner self-esteem among their students than do the traditional schools. An argument will also be presented suggesting that selective sample biases in the student populations of the diverse schools used in the study cannot account for the variance exhibited in the outcome measures.

Methodology

Sample and Research Design. The sample used in this chapter is comprised of 7th and 8th grade children from two traditional schools (n=170) and five open schools (n=302), one being highly open, three very definitely so, and one minimally open.[3]

Background characteristics of the seven school populations are diverse.

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[3] Numerous measures of openness were employed. An observation checklist developed by Dillon, Grout and Franks yielded a three-person inter-rater measure of agreement of .94 (see W. S. Robinson, 1957). The Traub-Weiss Teacher self-report on openness (DISC) was administered to all teachers and corroborated the school's rankings on openness generated by the observation checklist. McPartland's student's perception of openness (1973) was also used.

Two open schools draw from low-income black areas; of the remainder one draws from lower-middle black, one from middle income black, and one from the upper-middle socio-economic class with 73 percent white. The two traditional schools draw from middle class populations that are 70 percent white. All of the schools have a solid reputation as giving a quality education via a concerned and qualified staff.[4] The sample is described in greater detail in the next chapter.

Sample characteristics in a study of this sort take on importance as they relate to design strategies for separating school effects from home and personality variables. The particular design informing the larger study generating the data herein can be identified as a Nonequivalent Pretest-Posttest Conrol Group Design (Campbell and Stanley, 1967:47). It is referred to hereafter as a comparison group rather than control group design to highlight the fact that subjects are not randomly drawn into each group from a common population. But 'sample equivalence' in the pretest experimental and control groups is not the only available manner in which the independent variable can be isolated from extraneous antecedent variables. If the hypothesized relationships hold up consistently in all schools despite differences in antecedent variables characterizing the school student populations, these sample differences can be eliminated as possible confounding variables. Likewise, if the relationships grow stronger with length of exposure to openness and are uneffected by sample differences, the argument for the internal validity (Campbell and Stanley, 1967:5) of the research is further strengthened.

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[4] The importance of controlling for the quality of the school separately from the kind of educational program offered is stressed by Wallache's interesting review of Manuchin, et al., in the Harvard Educational Review, Vol. 41, No. 2, May, 1971.

Measures of Variables

The two dimensions of self-esteem are measured conventionally by separate Likert-type paper and pencil tests. The type of autonomously gained self-esteem generated in the pure case by intrinsic motives is measured by items referring to feelings of potency or ability to accomplish goals as well as an ability to "pull off" being what one intends to be identity-wise (JOCOMP). Outer self-esteem is measured by a ten-item scale (JOLGS). These scales are described in the chapter on outcome variables and in the appendix.

Students were also requested to circle seven social roles (helper, artist, good dresser, mechanic, tough guy-girl, etc.) out of a list of thirty, that were--in their own judgment--important for them to be or do. These are conceptualized as salient self-conceptions and referred to as SIP--Salient Identity Pegs. The thirty "identity pegs" were derived from suggestions by teachers, principals and students as well as by the authors. Next the students were asked to evaluate themselves on the SIP's. Students were then asked to state the amount of time the school allowed them to perform in their chosen salient identity pegs, giving a measure of varieties of roles offered in the seven schools. This measure is described in the chapter on program implementation measures. Finally, students were asked to check spaces describing how well they felt they performed in all thirty roles listed. Students were told they could add their own items to the lists presented.

This resulted in four self-conception related measures:

1. Salient Identity Pegs--SIP
   (These were also ranked for each individual.)
2. Self-reported evaluations on SIP.
3. Opportunities to perform in SIP's afforded by the school social environment.
4. Self-reported evaluations on all thirty identity pegs offered by the questionnaire.

From these data it was also possible to derive a measure for each school indicating the degree to which it offered available performance roles congruent with salient self-conceptions.

It was noted by the administrators of the questionnaires that the children enjoyed the exercise and were not aware of its purpose. Thus, threats to internal validity from the extraneous variables of test-fatigue and reactive measures were believed to be minimized.

Data Analysis

The first tables in this analysis examine differential rates of inner and outer self-esteem as they relate to school type. Next, school differences in role structures are assessed and analysis focuses on what "it is about" school structures that produces observed differences in the dependent variables. Gains in inner self-esteem are then related to cohorts representing increasing exposure to open and traditional school programs. After further elaborations are presented, a final section offers empirical grounds for eliminating the possibility of *a priori* sample biases and presents the effects of "controlling" for social desirability on these data.

School Types Related to Inner and Outer Self-Esteem. The first and most general hypothesis, that open school students would have higher inner self-esteem scores than traditional schools, was supported by the one-way analysis of variance in Table 1. School type was utilized as the independent variable and inner self-esteem as the dependent variable (the means for inner self-esteem were 24.34 in the open schools and 22.69 in the traditional schools).

See Table 4 Next Page

It was next predicted that distributions of scores on outer self-esteem would be similar between school types since an important part of the research thesis is that self-attitude scales developed from exclusively "other-directed" models of socialization omit an important kind of self-esteem that open schools are specifically designed to nurture (see especially Brewster Smith, 1968:305 and 308).[5]

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[5] The ground for this hypothesis is complicated by the possibility that persons exhibiting the moderated self-confidence and assertiveness characteristic of adequate inner self-esteem frequently call out positive responses in others which, in turn, increases the likelihood of developing outer self-esteem. Thus, one may expect the two theoretically distinct dimensions to be empirically associated--at least to an extent (Franks and Marolla, 1974). This relationship could be qualified, however, by various contingencies. Persons, for example, could vary in their tendency to look for self-esteem inputs in the responses of others. Some may, to various degrees, seek inputs through their own judgments of their competencies in impersonal spheres. In these cases, inner self-esteem would not necessarily be empirically associated with high outer self-esteem (Marolla, 1974). Thus, the possibility that school differences in inner self-esteem would, themselves produce differences in outer self-esteem was rejected and the hypothesis was maintained as logically deducable from the theoretical thesis.

TABLE 4

One-Way ANOVA Using School Type as the Source of Variation and Inner Self-Esteem as the Dependent Variable

Source	Sum of Squares	Degrees of Freedom	Mean Square
School Type (Open or Traditional)	394.83	1	394.83
Error	11586.15*	428	27.07
Total	11980.98	429	27.93

F = 14.585 Means: Open = 24.34; Traditional = 22.69

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*The error term in all one-way ANOVAS is calculated with harmonic means to adjust for unequal n's.
$p = < .001$

The one-way analysis of variance in Table 5 (next page) did not support this hypothesis, indicating as it did, a significant school type difference at the .01 level of confidence for outer self-esteem. "Blocking on social desirability eliminated this relationship, however, and if one is willing to conceive of this as an extraneous variable the original hypothesis gains support. This was the only finding changed when social desirability was held constant (see Table 12). When the 6th graders were included in the main sample (see Chapter V) and scores were standardized for race and sex (see Chapter VI), school type shows no difference in outer self-esteem, but inner self-esteem is higher in the open schools in all cases at the .001 level.

The Congruence Between Salient Self-Conceptions and Available Roles as a Facilitator of Inner Self-Esteem. The next two sections are concerned with the influences of types of role structures on the two types of self-esteem under consideration. As previously stated, role structures are measured here in terms of (1) the proportion of roles that students see as congruent with, or irrelevant to their salient self-conceptions; and (2) the amount of school time spent in the different kinds of roles. After open and traditional school differences are established along these lines, attention focuses on which school structures facilitate which kind of self-esteem. The variable conceptualized as intervening between perception of school structure and self-esteem is "self-assessment of performances in school roles."

The third hypothesis is that open schools produce higher means than traditional schools on the number of perceived role opportunities congruent with salient self-conceptions. Both a one-way analysis of

TABLE 5

One-Way ANOVA Using School Type as the Source of Variation and Outer Self-Esteem as the Dependent Variable

Source	Sum of Squares	Degrees of Freedom	Mean Squares
School Type (Open or Traditional)	438.41	1	438.41
Error	22727.37	428	53.16
Total	23165.78	429	54.00

F = 8.256 Means: Open = 36.43; Traditional = 34.33

p = < .01

variance and a test of independence confirmed this hypothesis. Means for the former test (scoring was in the reverse direction) were 11.66 for the open schools and 14.50 for the traditional schools (see Tables 6 and 7)

See Tables 6 and 7, Next Pages

Table 8 confirms the fourth hypothesis: *open schools produce higher means on self-evaluations of performances related to salient roles than do traditional schools*. Means for open schools were 10.14 in contrast to 11.22 for traditional schools (scoring is again in the *reverse* direction).

See Table 8, Page 94

The fifth hypothesis includes the two above and adds inner self-esteem as a dependent variable: *the higher the rate of perceived salient role opportunities and the more positive the self-evaluations of performance in these roles, the higher the means of inner self-esteem*. The two-way analysis of variance in Table 9 and Graph 8 gives support to the posited main effect of self-evaluations of role performances salient to self-conceptions on inner self-esteem. There was not a significant main effect on inner self-esteem deriving from the perception of salient role opportunities per se. Therefore, self-evaluation of performance on salient roles may form the "linkage" between the perception of structurally given salient roles and inner self-esteem, i.e., perception of roles congruent to salient identities only produces self-esteem if

TABLE 6

A One-Way ANOVA Using School Type as the Source of Variation and Perception of Salient Role Opportunities as the Dependent Variable

Source	Sum of Squares	Degrees of Freedom	Mean Square
Perception of Salient Role Opportunities	727.97	1	727.97
Error	8248.33	385	8248.33
Total	8976.30	386	8976.30

F = 33.979 Means: Open = 11.66; Traditional = 14.50

p = < .001

TABLE 7

Test of Independence Between School Type and Salient Role Opportunities

	Perceived Salient Role Opportunities		
Type of School	High	Low	
Open	173	70	243
Traditional	62	82	144
	235	152	

Chi Square = 28.848 p = < .01

Phi coefficient = .27

TABLE 8

A One-Way ANOVA using School Type as the Source of Variation, Evaluation of Performances in Salient Roles as the Dependent Variable

Source	Sum of Squares	Degrees of Freedom	Mean Square
School Structure	169.64	1	169.64
Error	3069.10	401	7.65
Total	3238.73	402	8.06
F = 22.164	Means: Open = 10.14; Traditional = 11.22		

p = < .001

self-evaluation of performance in these roles is also high.

See Table 9 and Graph 8, Next Page

Forced Roles Irrelevant to Salient Self-Conceptions as a Facilitator of Outer Self-Esteem. Outer self-esteem is hypothesized here to result from social recognition of performances in roles relatively irrelevant to the formation of one's chosen identities. The most typical rewards to be gained from such situations have to be identified as extrinsic, and extrinsic rewards have been associated most generally with the generation of outer, rather than inner, self-esteem. It would, therefore, follow that high self-evaluations in performances in forced roles, irrelevant to salient identities, would not influence inner self-esteem as much as it would outer self-esteem since the latter is characteristically tied to the opinion of others apart from one's own private aspirations. Thus, the sixth hypothesis states that: high inputs of outer self-esteem will be associated more often with highly evaluated performances in "forced", rather than chosen roles.

In constructing an ANOVA table testing this hypothesis, one would expect the source of variance to be dichotomized into salient (congruent) roles and forced (incongruent) roles with the dependent variable being outer self-esteem. Complexities in coding necessary to produce the forced role catagory proved prohibitive, however, and the only dichotomy available was self-evaluations of performance on all roles and on salient roles. Correlational techniques were necessary, therefore, to abstract out the desired forced role category from the all roles category.

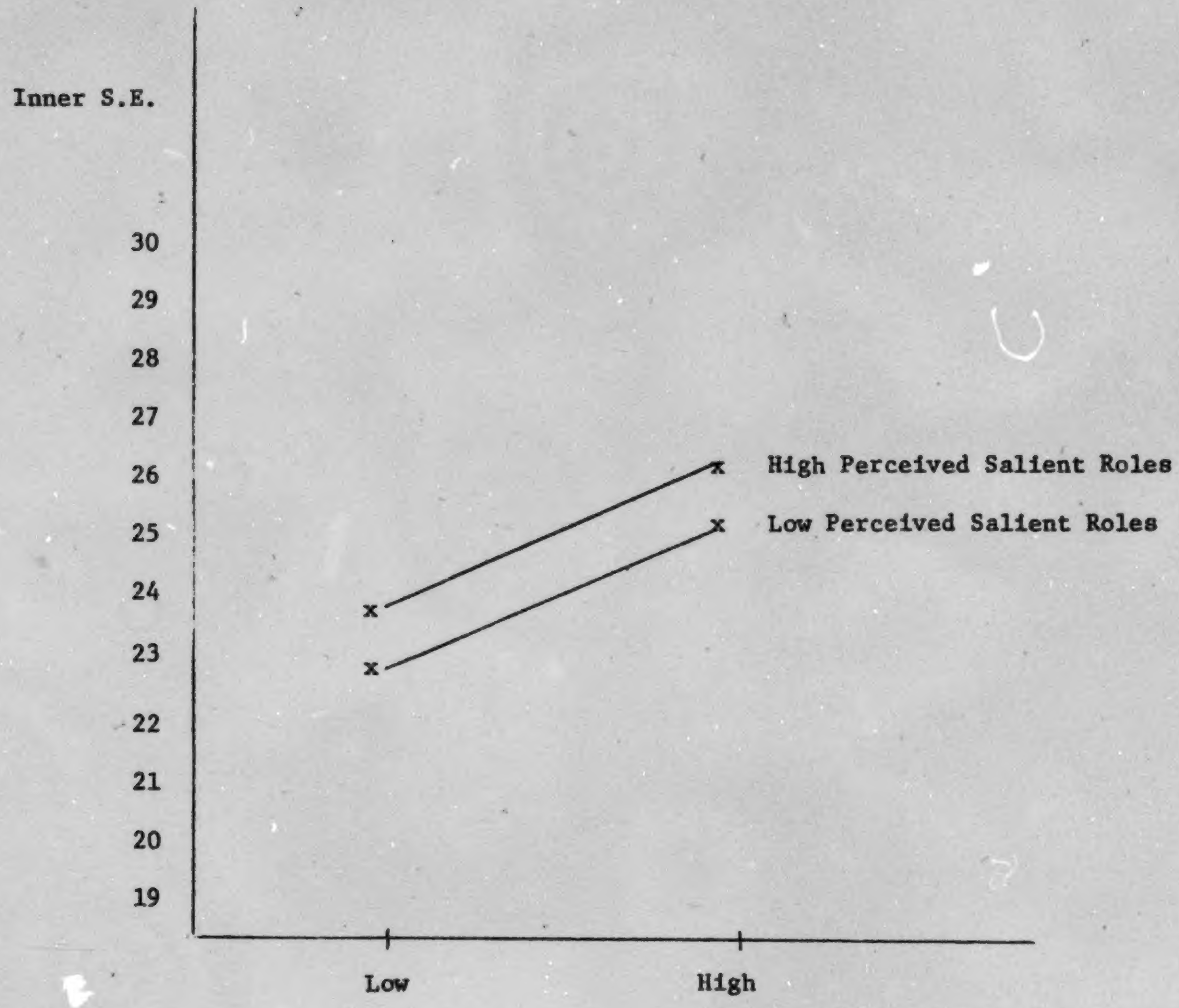
TABLE 9

A Two-Way ANOVA Using Salient Role Opportunities and Evaluations of Salient Role Opportunities as the Source of Variation and Inner Self-Esteem as Dependent Variable

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Level of Significance
Salient Role Opportunities	0.76	1	0.76	2.103	NS
Evaluation of Performance	4.17	1	4.17	11.582	$p < .001$
A X B	0.02	1	0.02	0.057	NS
Error	9920.39	359	0.36		

GRAPH 8

Graph of Table 9



Evaluation of Performance on Salient Roles

The evaluation of performance in all roles was indeed positively related to outer self-esteem (.52), while the correlation with inner self-esteem was only .15. When self-evaluations of performances on salient role conceptions only was used as a partial (leaving only forced roles), the small relationships between inner self-esteem and evaluation of performances on all roles disappears (-.01). In contrast, the forced roles and outer self-esteem is only reduced to .33. Hypothesis six thus receives confirmation.

Further Elaborations and Controls. The first elaboration of these data involves a cohort analysis relating length of exposure to school type, with changes in kinds of self-esteem. Cohort studies involving age or class groupings are usually considered questionable approaches to explanations of change because of the danger of sample mortality. That is, the school program could force out young members who "don't fit," leaving a selective type of person in the last cohorts. For example, in the open schools, children that lack inner self-esteem may have a higher tendency to drop out of the programs in the early stages. Thus, the program would not produce high inner self-esteem as much as it forced out those that did not have it, leaving a relatively high inner self-esteem mean in "advanced" cohorts. Despite the fact that sample mortality is not controlled in this section, it is felt that the cohort data is relevant. First, if indeed the programs are responsible for differences in types of self-esteem, a cohort study should support this. While "positive" findings can be variously interpreted, negative findings would call into question, or qualify, the validity of data presented so far.

For each school type (traditional and open) students were dichotomized in regard to exposure. This produced four groups: (1) those attending the *open* schools for one year or less; (2) those attending *open* schools for two years or more; (3) those attending *traditional* schools for one year or less; (4) those attending *traditional* schools for two years or more. The *post hoc* "hypothesis" stated that *the longer the exposure to open schools, the greater the inner self-esteem*. This was supported by a one-way ANOVA (see Table 10) in which group No. 1 obtained an inner self-esteem mean of 23.36 and group No. 2 obtained an inner self-esteem mean of 25.41.

See Table 10, Next Page

For traditional schools the same hypothesis was explored using a one-way ANOVA on groups No. 3 and No. 4. Table 11 demonstrates significant differences at the .05 level but in contrast to the open schools, inner self-esteem went *down* in the traditional school cohorts. (Thus, group No. 3 obtained an inner self-esteem mean of 24.91 while group No. 4 obtained a mean of 22.60).

See Table 11, Next Page

While this supplies evidence for the efficacy of these open schools to support and nurture the development of inner self-esteem in their students, it must be recognized that this cohort analysis is limited to general "school type" and does not attempt to identify what it is about the schools that makes them effective. The more deductive hypotheses

TABLE 10 (For Open School Sample Only)

A One-Way ANOVA Using Number of Years in a Particular School Structure (Group I = 1 year, Group II = 2-9 years) as the Source of Variance and Inner Self-Esteem as the Dependent Variable

Source	Sum of Squares	Degrees of Freedom	Mean Square
Years in School	194.00	1	194.00
Error	7017.45	263	26.68
Total	7211.46	264	27.32

F = 7.271 Means: Group I = 23.36; Group II = 25.41

p = < .01

TABLE 11 (For Traditional School Sample Only)

A One-Way ANOVA Using Number of Years in a Particular School Structure (Group III = 1 year, Group IV = 2-9 years) as the Source of Variation and Inner Self-Esteem as the Dependent Variable

Source	Sum of Squares	Degrees of Freedom	Mean Square
Years in School	101.02	1	101.02
Error	3968.06	154	25.77
Total	4069.08	155	26.25

F = 3.921   Means: Group III = 24.91; Group IV = 22.60

p = < .05

in previous sections have addressed themselves to this specific question giving evidence that inner self-esteem derives from the relationship between roles offered by the structure, salient self-conception, and self-evaluations of performance in roles congruent with salient identities. The next question involves a contextual analysis (Hirschi and Selvin, 1967:125). Is this relationship dependent on the total school context, i.e., does it hold regardless of school type?

To explore this question, the findings relevant to hypothesis five (involving self-evaluations on salient roles and inner self-esteem) were replicated for each school with attention directed to variations by school types. The directionality of the originally hypothesized relationship was repeated in all seven schools and met the chosen confidence level in five of them (see summary Table 8).[6] Though findings here are exploratory and less conclusive than for the seven deductive hypotheses above; the present weight of this limited evidence suggests that the important school factor in encouraging inner self-esteem is the relationship between roles and identities rather than school type in general. As long as this relationship exists in otherwise traditional schools, they may nurture inner self-esteem to the same degree as open schools. This important area needs more research than presented here, however, before satisfactory results can emerge.

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[6] The total n in this part of the study is approximately 400 subjects. When analysis is broken down for each school, the sample sizes are substantially reduces. Concurrently, the power of the test should be increased to facilitate the detection of differences. Therefore, the alpha level was increased to .25. Though there may not be consensus in this area, it is the author's opinion that directionality is the significant criteria in these cases.

One of the major problems of control in a study such as this involves the non-equivalence of student populations prior to enrolling in the program. This leaves open the possibility that these findings are simply the result of pre-test sample fluctuations between each school rather than the posited independent variable. These schools did indeed vary significantly in racial and socio-economic characteristics of their population. If these a priori sample variations are operating to explain the outcomes, the relationships tested above would be expected to disappear and/or change when the findings were replicated for each school separately. However, as stated before, this was generally not the case as demonstrated by Table 12. In no school did the data fail to support the directionality of the hypothesis more than once. The school that presented the least replication was a traditional school (No. 6) where three of the seven hypotheses were not confirmed in significance (though the means were still in the hypothesized direction). In sum, sample fluctuations due to income level, family socialization, and other antecedent factors are unlikely explanations for the results reported here.[7]

If these results were confounded by social desirability, then blocking on high and low social desirability would change the original findings. Table 12 indicates that such was not the case. Data from students scoring low on social desirability replicated each hypothesis in

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[7] Further data are available from the authors which separate measured school effects from selected home effects (such as parents achievement aspirations for the child and style of discipline) on self-esteem and other relevant outcomes. School effects independent of antecedent, demographic, and socialization factors were analyzed in more detail in these reports and given further cause for eliminating sample bias as an explanation of the outcomes presented here (see Chapter X).

TABLE 12*

Direction and/or Significance of Hypotheses within Sub-Samples

Code: X = Statistical Significance as well as Directionality
O = Means in hypothesized direction
N = Does not Achieve Significance

Hypothesis Number	Total Sample	School Type							Social Desirability	
					Open		Traditional			
		Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6	Sch 7	S.D. Low	S.D. High
#1	X								X	0
#2	X								N	N
#3	X								X	X
#4	X								X	X
#5	N,X**	N,0	N,X	N,X	N,X	N,X	N,0	N,X	0,X	N,0
#6	N,X***	N,X	N,0	N,X	0,X	X,X	N,X	0,X	N,X	0,X

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* For copies of tables and graphs of all these sub-samples please write the authors.

** Two values are necessary to indicate the significance or direction for each main effect.

*** For this table hypothesis six was replicated by a two-way ANOVA within each sub-sample rather than by the correlational approach used for the total sample in the text. This change was necessitated by the small ns in the sub-samples.

terms of significance as well as direction. In the high social desirability groups all findings were replicated in terms of direction and only three were not replicated by significance.

CHAPTER VI

SAMPLE CHARACTERISTICS AND ANALYSIS ISSUES

Introduction

Sample characteristics are dealt with here from the point of view of controlling for "extraneous" variables (Campbell and Stanley, 1967). The researcher must attempt to demonstrate that differences in kinds of self-esteem, cooperative group skills and scores on achievement tests, for example, are due to the effects of the school programs rather than the characteristics of the children before they enrolled (e.g. I.Q.). That is, program effects and family background will both compete for an explanation of the results until evidence can be obtained to decide which one is responsible for the findings. Of course, this is not an either-or question; we need to assess how much of the variance in our results is due to family and demographic influences, how much is due to school influences and how and if these interact. Thus these effects need to be determined jointly as well as separately. The comparative size of school effects and home effects on our outcomes is also of interest.

The most straight forward way to "control for" the effect of home and demographic variables is to obtain schools whose student bodies are similar on these factors and as different as possible on degrees of program implementation. Then differences in outcomes can most plausibly be attributed to the program. Assuming such sample equivalence, if scores on outcome variables increase with the degree of openness within the group of "experimental" schools, then the arguement that the schools indeed produce these outcomes would be stronger. If they went up with length of student exposure to open schools it would be even tighter and so on.

Research Model

Since, as stated above factors external to school effects may be responsible for differences in outcome, they must be included in the research model guiding the study. Diagram 1 presents all variables collected in this study categorized into antecedent, independent and dependent variables. Variables given antecedent status are broken down further into (1) demographic (2) home environment and (3) "personality" groupings. By "personality" we mean orientations and predispositions brought into the school situation which may qualify the effect of school outcomes or act as an independent variable in relationship to some outcomes. Home environment stresses childrearing styles (punishment-reward structure, parental orientation toward achievement for the child, etc.) as well as family structure. Antecedent means that the source of the variable considered is historically prior to school influence though it may enter into the present situation as a rival to school effects in explaining a given outcome. The overall model may be diagramed as follows:

MAJOR TYPES OF VARIABLES*

ANTECEDENT	INDEPENDENT	DEPENDENT
1. Demography Age, sex, family size, occupation etc. 2. Home Environment a. child rearing styles b. achievement orientation 3. Personality a. relatively stable personal styples, e.g. control orientations	School Environment (various measures of openness)	Outcomes 1. academic achievement 2. self & school attitudes 3. cooperative skills etc.

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*This is a simplification of Diagram 1.

Diagram I

ANTECEDENT VARIABLES

DEMOGRAPHIC AND FAMILY

I. School Descriptors
   1. Grouping in study includes grade, years in school, I.D.
   2. Name of school and/or high school for follow-up

II. Demographic Variables—Family Interview I p. 1
   1. Sex   2. Age   3. Race

III. Parents' Background—Family Interview I p. 1
   1. Religion
   2. Parents' Marital Status
   3. Education, Mother and Father
   4. Occupation, Mother and Father
   5. No. of persons in household
   6. No. of siblings, Mother and Father (school records)

IV. Child-Rearing Practices
   1. Affectionate Climate, 6 items, p. 2
   2. Reward Structure, 6 items, p. 3
   3. Authority in Home, 9 items, p. 4-5
   4. Control Structure (free time, school work), 3 items, p. 5
   5. McPartland Child's Perception of Family Control Style (see children's questionnaire winter 1974 or 1973)

V. Achievement Motivation--Family Interview II
   8 scales--Mother and Father

VI. Activism in School and Community (Parents), p. 7
   1. Participation in Organizations
   2. Volunteer? School: invited, volunteer
      Community: invited, volunteer
   3. Why (if they did not volunteer)
   4. Special classes; no, plan to, am taking now
   5. Activism in classroom setting (5 items, p. 8)

VII. Reason for Sending Child to this School
   1. open-ended, p. 8
   2. 8 forced-choice items, p. 9

Neighborhood Census Data

PERSONALITY

I. I.Q.

II. Self-Esteem via Coopersmith Self-Report:
   a. Parent
   b. School
   c. Peer
   d. Total

Coopersmith Teacher Behavior Rating Form

III. Locus of Control—Internal/External
   Nowicki-Strickland
   (needs to be factor-analyzed for subscores)

IV. Social Desirability
   Lunneborg & Lunneborg
   a. Adult
   b. Crowt Adult
   c. Peer

V. a. Marolla's Source of Self Esteem
   b. Gordon's Systemic Competency

VI. See also placement in sibling sequence III6 and Child Rearing IV and Achievement Motive V in Family Background

These variables need to be shown empirically to be quite stable if they are to meet the empirical criteria for an antecedent personality variable.

New TBR (Winter 1973)

These are variables shown by previous research to be relatively stable and resistant to change.

INDEPENDENT VARIABLES (program implementation)

I. Students' Perception of School Openness (McPartland, 6 items) See also VI below.

II. Teachers' Perception of School Openness (McPartland, 6 items)

   Teacher Questionnaire
   past experience in open education
   Goals of Education

III. Teachers DISC by Traub, Weiss, Fischer and Musella, Dimensions of Schooling--from OISE
   1. Setting instructional objectives
   2. Materials—activities
   3. Physical Environment
   4. Structure for decision-making
   5. Time scheduling
   6. Individuation of Learning
   7. Composition of classes
   8. Role of Teacher
   9. Student Evaluation
   10. Student Control
   11. Total Score

IV. Observers Check Lists
   A. Flub Freedom & Limits in Open Schools
      1. Student Participation & determinations
      2. Learning Activities????
      3. Adult controls—quantity and quality
   B. PROG. IMPLEMENTATION SCALE
      1. Individualization
      2. Freedom
      3. External Regulation
      4. Interest

V. Average of DISC and Program Implem.

VI. Marolla Perception of Range of Choices for roles and/or identities congruent with salient identities

VII. Teacher Characteristics
   Dillon-Crowt Descriptive Notes
   Marlowe-Schmidt Rankings
   Photo Data
   (Years in School)

DEPENDENT (OUTCOME) VARIABLES

I. ACADEMIC TEST ACHIEVEMENT
   1. Iowa Test of Basic Skills
      National %ile (can compare better between grades--most useful)
      Grade Equivalent* (composite ability and achievement)
      correlate
      Scholastic high school placement (most 8th graders took it)
      *composite, IQ, skill %ile

II. COOPERATIVE SKILLS
   1. individual no. of pieces given
   2. group no. of pieces given
   3. group no. of squares broken
   4. group no. of withdrawals
   Group satisfaction on cooperative Skills task

III. RECIPROCAL COMMUNICATION TASK
   1. individual score on communication
   2. group accuracy

IV. INNER SELF-ESTEEM
   1. Marolla's Personal Competency
   2. Semantic Differential Potency & Eval.
   3. Interview on how students evaluate how well they are doing.

V. COMPETENCY BASED SELF-ESTEEM
   1. Gordon's Systemic Competency
   2. Self-evaluation on salient self-conceptions enacted in school (intervening variable)
   3. See also Marolla personal competence, IV, above and also Marolla Outer SE (Looking Glass Self Scale)

VI. COMPETENCY TIED TO SCHOOL SITUATION
   1. Learner Self-Conception (to be factor analyzed)
   2. Coopersmith self-reported school subscale

VII. AUTONOMY AND SELF RELIANCE
   1. Crowt-Wiener Self-Reliance from Teacher
   2. qualifier? Marolla Source of self-esteem
   3. Interview: See IV3 above

VIII. ATTITUDE TOWARD SCHOOL
   1. Weiss: Attitude toward School
   2. Attitude toward Teachers
   3. Dillon: School Alienation
      Student Goals (Fall 1974)
      SIP School Opportunities

IX. SOCIAL PERSPECTIVE TAKING

X. PERCEPTION OF ALTERNATIVES

not administered as of Fall 1974

A note of caution is in order regarding the nature of model used above. It is not to be considered a research model generating deducible hypothesis in a strictly formal sense. The testing of hypothesis deduced from a formal (logically tight) theory is an endeavor appropriate to what philosophers of science refer to as the "context of proof." The type of research presented in this chapter should be guided by the standards and requirements of the "context of discovery" (Kaplan 1964; Philips 1966). Thus, the purpose is not to designate a theoretical commitment which is then empirically tested, but to act as an organizing taxonomy representative of the common sense conceptual scheme guiding the exploration.

In lieu of a theoretically adequate model it seems appropriate not to commit ourselves rigidly to any outcome variable. Rather than setting up outcomes once and for all on the basis of a prior theory, findings are utilized to help decide which measures can best be considered outcomes in the sense that they are school effects rather than effects stemming from antecedent factors. Which measures are eventually considered true outcomes then, are end products of the research reported here and the model above simply describes the common sense categories we bring to the analysis.

Problems in Simple Comparisons Between Open & Traditional Schools

The object of the data analysis is to assess the relative contribution of home and demographic factors to an explanation of the outcomes in an effort to judge the effects of school type per se. Home environment, including child-rearing attitudes and family size, sibling order, etc., are ignored in the first stage of analysis and will be addressed later. The first step focuses on the demographic factors of race and sex. These two variables are chosen because they are empirically associated with many other factors, i.e. by controlling on them, we control on a wide range of other factors also. For example in the research literature sex is related to child-rearing practices and race is highly related to SES, both of which which must be controlled since they themsleves can be responsible for outcomes.

A glance, however, at the family and neighborhood characteristics (as well as race, sex and I.Q.) of the student bodies in each school, indicated the difficulty presented by these samples. Sacred Heart, Dansville, a traditional school, shares some sample characteristics with St. Terrance, an open school, but they differ in race and mean I.Q. St. Terrance and St. Laude have similar rankings in I.Q., percent non-white and father's occupation. The advantage of their similarity on these three variables is minimized, however, by their similarity in program implementation. (However, if we find they are different on a particular dimension of program implementation measures, we can take advantage of this control-wise.) Benedictine and Sacred Heart, Georgetown[1], two open schools, have somewhat similar sample characteristics and may offer opportunities to investigate the effects of certain dimensions of openness wherein there is a marked difference, e.g. individualization of programs--at least for the first year of the fully funded study.

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[1] Sacred Heart, Dansville, is a traditional school. Sacred Heart, Georgetown, is an open school. The Georgetown school combined in the fall of 1974 with another open school, St. Laude, to produce St. Margaret. This analysis however concentrates on the year prior to this change.

The first step then is to see how race and sex effect the outcomes in this particular study and sample. If they do not correlate with an outcome variable, they probably do not compete with the independent variable for an explanation of outcomes. On the other hand, in interaction with the independent variable (school type) they could still play a part in explaining the outcome. In Table 13, grade, race and sex are analyzed to determine whether they affect selected outcome variables either as separate effects or in interaction with the schools. Grade will also be used as an analogue for age here since if outcomes are severly effected by grade, all grades could not be combined in the main study sample. Findings from this preliminary analysis are as follows:

Grade: The interrelationships among the eight chosen outcome variables are not significantly different for the 6th, 7th and 8th grades. A two-way analysis of variance indicates that grade does not appreciably interact with school, and it does not significantly influence the outcome variables on their own.

It is valid therefore to combine the 6th, 7th and 8th grades to form a main sample. As a general rule the 5th grade will be analyzed separately. Internal consistency estimates for the fifth grades on our instruments are also consistently and decidedly lower for the other three grades. However, this would not totally eliminate the possibility of using them if we have a real need for an increased sample size in some cells.

Race and Sex: Both antecedent variables are significantly related to type of school. Both have significant effects on some of the criterion

Table 13

The Relative Importance of School Effects and Effects from Grade, Race and Sex on Key Outcome Variables

Direction of relationship and degree are not shown since the purpose is only to show whether grade, sex or race are related to the outcome. These data are for Open _and_ Traditional Schools, 6th, 7th, and 8th grades, Spring, 1974.

Selected Outcomes	Significance Levels								
	Grade			Race			Sex		
	School	Grade	Interaction	School	Race	Interaction	School	Sex	Interaction
1. Coopersmith SE	.001	.01	NS	.001	NS	NS	.001	NS	NS
2. Marolla Competency	.001	NS	NS	.001	.05	NS	.001	NS	NS
3. Looking Glass Self	.05	NS	NS	NS	NS	NS	.05	NS	NS
4. Learner Self Concept	.001	NS	NS	.001	NS	NS	.001	.01	NS
5. Self Reliance from Teacher	NS	.05	NS	.01	.001	NS	NS	NS	NS
6. Social Desirability	.001	NS	NS	.001	.01	NS	.001	NS	NS
7. Attitude toward School	.001	NS	NS	.001	NS	NS	.001	.001	NS
8. Iowa Basic Skills	.001	NS	NS	.05	.001	.01	.001	.05	NS
9. McPartland* Openness	.001	NS	.01	.001	NS	NS	.001	NS	NS

* Not an outcome, included here only as a check.

Table 13a

Numbers of Students of Each Sex and Race for 6th, 7th and 8th Graders in Groupings of Schools
(See next page for complete table)

School	Black Male	Black Female	White Male	White Female
1. Lanetto	1	16	9	60
2. St. Laude and	67	66	13	14
St. Terrance*..............	(91)	(89)	(16)	(16)
3. Sacred Heart Georgetown	48	53	2	0
4. Benedictine Justice	50	42	0	0
5. Comparison:				
St. Andrew and	35	29	87	76
Sacred Heart Dansville	(49)	(37)	(108)	(96)

*In order to keep cell sizes up, St. Laude and St. Terrance (judged equally open) would best be combined for the first year. This may also be the case for both traditional schools. The numbers in parentheses represent what the cell sizes would be if the 5th grade is included (see text).

Table 14

Comparisons Of Open & Traditional Means on Dependent Variables By Race & Sex

CONTROL AND OUTCOME VARIABLES	BLACK						WHITE					
	MALE			FEMALE			MALE			FEMALE		
	OPEN (116)	TRAD (35)	Sig. Level	OPEN (135)	TRAD (29)	Sig. Level	OPEN (24)	TRAD (87)	Sig. Level	OPEN (74)	TRAD (76)	Sig. Level
Teacher Beh. Rating SE*	32.3	33.6	NS	34.0	32.0	(.10)	34.3	34.8	NS	35.9	33.6	.05
Social Desirability	25.7	23.9	.001	26.1	24.8	(.10)	24.7	23.7	NS	24.8	23.7	.05
Source of Self-Esteem	16.8	17.5	NS	16.2	16.4	NS	15.3	17.2	(.10)	17.0	18.0	NS
Self Reliance From Teacher	33.6	31.4	(.10)	35.4	31.8	.05	35.7	34.9	NS	36.0	34.9	NS
Iowa Basic Skills Nat. PCTL	22.3	30.8	(.10)	27.8	41.2	.01	43.3	52.1	NS	55.1	49.3	NS
Attitude Towards School	52.7	45.9	.01	56.5	49.8	.01	51.3	47.4	NS	56.2	51.0	.01
Attitude Towards Teacher	51.4	44.0	.001	52.4	46.9	.05	51.9	45.7	NS	54.4	45.8	.001
Dillon Alienation From School	8.7	8.6	NS	9.5	8.5	.05	9.6	9.4	NS	9.8	9.0	.05
Learners Self Concept	51.7	48.4	.01	52.4	50.2	(.10)	50.9	49.9	NS	52.8	51.0	.05

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* Student's self-esteem as determined by behavior rating scale filled out by teachers.

variables (see Tables 13 and 14). Thus it would not be valid to pool blacks and whites, girls and boys, into one open school sample and one traditional school sample. It should be noted in relationship to these tables, the school effects predominate over race, sex and grade. Correlations between other antecedent variables and outcomes also imply a significant amount of effect coming from the school.

Resulting Comparison Groups

Sex and race then, become relevant indeed for control purposes. With these sample characteristics in mind (as well as father's occupation and income), Lanetto and Benedictine stand out as our least comparable groups. On the program implementation side of the coin they are the most and least open respectively. Whereas Lanetto is predominately upper-middle class, white female, Benedictine is black, low income and evenly divided sex-wise. They stand as unique units and are not productively comparable to other schools unless their sample differences are taken into account (see Table 13a on page 113).

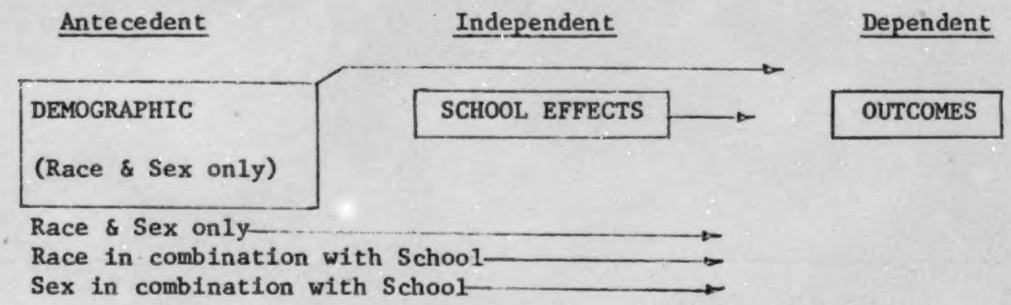
In order to obtain a satisfactory cell size along the dimensions of sex and race, St. Laude and St. Terrance can be combined as two "solidly open" schools. Then the two traditional schools can be combined to make (SL-ST) and (SA-SHD) the core groups in the study for straight forward comparison purposes. Both groups are middle class as measured by their father's occupation. It is important that the samples be similar here since father's occupation correlates .42 with academic achievement as measured by the Iowa Basic Skills national percentiles. (It is not related to the self-esteem, self-reliance and self-concept outcome measures, however). A paramount problem then remains: the two groupings are different racially with the open schools mostly black and the traditional schools mostly white while at the same time both variables influence many of our chosen outcomes.

Alternatives to the Comparison Approach: General Features of Proceeding Analysis: Standardization and Testing for Spuriousness

In light of the above, this analysis relies heavily on statistical (mathematical) controls rather than simply traditional and open school comparisons. This means that the unit of analysis will shift from schools to each outcome variable taken separately and what proportion of its variance is the result of the school alone. For example, since race and sex are important determinates of many of our outcomes, and since they are distributed among the schools in a manner that works against constructive comparisons, we will arbitrarily remove race and sex influence by mathematically making them equal among the schools and in this particular sense "eliminating" their effect on each outcome. This mathematically induced "control" is referred to as standardization.

A premium will also be placed on an effort to "wash out" the effect of race on achievement. Race will be correlated with the background family variables to see what it is about race that relates it to achievement. This is known in multi-variate analysis as a test for "spuriousness" where X itself does not cause Y, but something empirically associated with X is the real explanation of Y.

In this context, only part of the model presented earlier is utilized:



Corroboration Thru Change In Gain Scores

The sample problems necessitating standardization would not hinder us from asking another quite separate question of change. That is, we can also test the hypothesis that changes in "gain" scores over time in the outcome variables is associated with type of school and not race.

Screening Process For Establishing Outcome Variables

Three general steps of analysis are utilized to establish a typology of outcomes which comprizes the following chapter. The first step presents the type of effect (main and/or interaction) that school, race and sex exhibit on each dependent variable. In all of the analysis after this point, effects of race and sex are eliminated or minimized through a standardization procedure. For the second step each dependent variable is analysed as to whether it differs between open and traditional schools as well as within open schools. Outcomes, generating both kinds of differences would be tentatively considered "stronger" than those exhibited only between group differences. The third stage involves a step-wise regression identifying those measures directly explained by program implementation dimensions. Thus all 24 potential outcome measures are run through a "three level sifter" generating the strongest candidates for "true" school outcomes. As stated before, future work can then be devoted to assuring that these remaining outcomes can not be explained by the home environment data or other antecedent variables.

Other Remarks on Establishing School Effects

The parent interviews also offer a good data base for investigating the extent to which being a member of a particular family determines outcomes in schools; the analysis will focus on this in future chapters. While the incompleteness of returns limits the family data to a substudy, it should be remembered that all children responded to the McPartland Scale (completed in the classroom) measuring the child's perception of parental control style. Correlations with these and the available parent responses will be of interest.

One of the main sources of extraneous variance due to a selective sample bias in a study such as this is minimized in this study. Usually parents have distinctive motives for enrolling their children in open schools and these motives are only part of a cluster of family child-rearing tendencies having to do with values stressing self-reliance, creativity and a generally "open" home environment. Thus, open school children may score higher than traditional school students on dependent measures not because of the school experience so much as the fact that they were socialized differently to begin with. Family interviews[2] have led these researchers to conclude that such is not the case for the open school parents. Families send their children to the open school not because it is open (quite the contrary, many families would rather it be traditional) but for the same reasons as the traditional school children, namely because they are parochial and have a reputation for their sincerity. For other data on sample see Appendix.

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[2] Interviews with 189 families (120 fathers and 189 mothers) demonstrate that "teaching methods" and "special programs" are equally distributed among open and traditional parents as reasons for sending their children to these schools. For no schools were these reasons ranked as the most important ones. See Appendix: Parental criterial for enrolling children in schools. Most parents were sending their children to these schools because they were parochial regardless of their open or traditional program. Lanetto was the one exception to the above.

CHAPTER VII

IDENTIFICATION OF SCHOOL EFFECTS

The Establishment of Outcomes with Schools Dichotomized into Open or Traditional

Twenty-four measures comprise the pool of possible outcome variables. The choices have been based on (1) measures relevant to the goal statements of open schools explicated in the previous chapters (2) our unique interests in this regard (especially in inner and outer self-esteem) and (3) preliminary correlational work involved in obtaining scaling attributes for all measures. Included are twelve self-esteem related scales, three autonomy related measures, three attitude toward school measures, and three measures derived from standard academic achievement tests. A measure of social desirability originally conceived as an antecedent personality variable completed the test. All data presented in this and the next three chapters are from the 1973-74 academic year. The sample is approximately 480 students from the 6th through 8th grades.

The twenty-two variables have all been treated as dependent measures in a three-way analysis of variance in which the independent variables are school (open vs. traditional) race (black vs. non-black) and sex[1]. On the basis of this analysis the potential outcome variables have then been standardized separately for each of four sub-samples: Black males, non-black males; black females and non-black females.

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[1] Since a Chi Square analysis has disclosed a dependency between school, race and sex, a Multiple Classification Analysis is projected as a more appropriate test for future work. This is not included in the present report.

Findings

The results of the three-way ANOVAS are shown in Table 15. School, in terms of the open/traditional dichotomy, is generally the most relevant of the three factors. It will also be seen that main effects are generally more significant than interactions, indicating additivity among the three predictors.

The results of Table 15 are summarized in a Venn diagram presented in Figure 1. Each circle refers to a type of variable - the circle in the middle being school, the one to the left race and the right sex. The area in which there is no overlapping of circles means the presence of a main effect only for those variables. The areas of two-way overlaps of all circles mean that: (1) the school and race main effects are both significant (or sex as the case may be) and/or the school by race (or sex) interaction is significant[2]. Which possibility is the case can be found by reference back to Table 15.

From Figure 1, it can be seen that the vast majority of outcomes lie in the school effect circle though many of these are positioned in overlaps with other circles. Five are in space 1 meaning that they result from school main effects only. In addition, three measures are included for comparative purposes that actually measure program implementation, or at

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[2] For example Self-Esteem via the Coopersmith's Teacher's Behavior Rating Form (completed for each student) shows a significant interaction between school and sex (see area 5 where sex and school circles overlap). In this particular case the school difference is stronger for males than females but this latter information is provided in Table 15, page 122.

Table 15

Significance of Differences and Interactions for School, Race and Sex On Pool of Potential Outcome Variables Grouped By Types of Potential Outcome

(Raw Scores, All Schools-6,7, &8th Graders, as of Fall 1974)

	Significance Level for main effects			Significance Level of interaction effects		
	Sch	Race	Sex	Sch-Race	Sch-Sex	Race-Sex
Academic Achievement Tests						
Iowa Basic Skills National Percentiles	.01(T)[1] f=7.64	.001(W) f=66.38	.05 (F) f=5.46	.05[2] f=5.46	NS	NS
High School Placement Composite Percentile (8th Grade Only....)	NS*(T) f=3.39	.001(W) f=27.89	NS	NS	.05[3] f=5.55	.05[4] f=3.88
High School Placement IQ Score (8th Grade Only....)	NS	.001(W) f=31.93	NS	NS*[5] f=2.89	.05[6] f=5.22	NS*[7] f=3.11
General Self-Esteem						
Global Self-Esteem via. Coopersmith Self Report	.001(O) f=15.60	NS	NS	NS	NS	NS
Parent, Home Related Self-Esteem Coopersmith Self-Report Subscale	.05 (O) f=6.56	NS	NS	NS	NS	NS
Self-Esteem via. Coopersmith Teacher Behavior Rating...	NS*(O) f=3.27	NS	NS	NS	.05[10] f=4.53	NS

---

1. The letters enclosed in parentheses refer to which is highest on mean scores. T=Traditional, O=Open, W=White, B=Black, etc. Other footnotes are found at the end of the Table (page 4). An asterisk by the label NS Means that the difference was significant at the .10 level but not at the .05.

Table 15 (continued)

Significance of Differences and Interactions for School Race and Sex On Pool of Potential Outcome Variables Grouped by Types of Potential Outcome
(Raw scores, All Schools-6,7, &8th Graders, as of Fall 1974)
(Con't)

	Significance Level for main effect			Significance Level of interaction effects		
	Sch	Race	Sex	Sch-Race	Sch-Sex	Race-Sex
Competency Based Self-Esteem						
Gordon Systemic Competency....	.05(0) f=3.75	NS	NS	NS	NS	NS*[11] f=2.90
Marolla Competency Based Self-Esteem	.001(0) f=14.40	.05(W) f=4.03	NS	NS	NS	NS
Waetjen Liddle Self Concept as a learner	.001(0) f=16.78	NS	.01(F) f=6.77	NS	NS	NS
SIPQI: Self Eval on Perf. on 5 roles Salient to Self Conceptions	.001(0) f=11.26		NS	NS	NS	NS
SIPQV: Self Eval on School situated Perf on all possible identity pegs.	.05(0) f=6.28	.001(B) f=16.95	NS	NS	NS	NS
Socially Based Self-Esteem						
Marolla Looking Glass Self Scale....	NS	NS	NS	NS	NS	NS
Self-Esteem via. Semantic Differential						
Evaluative Dimension	.01(0) f=9.61	.05(W) f=3.89	.05(F) f=3.77	NS	NS	NS
Potency Dimension	NS	NS	.01(M) f=7.47	NS	NS	NS

Table 15 (continued)

Significance of Differences and Interactions for School, Race and Sex On Pool of Potential Outcome Variables Grouped by Types of Potential Outcomes

(Raw Scores, All Schools - 6, 7, & 8th Graders as of Fall, 1974)

	Significance Level for main effect			Significance Levels of interaction effects		
	Sch	Race	Sex	Sch-Race	Sch-Sex	Race-Sex
Autonomy and Self-Reliance						
Grout Self Reliance from Teacher.......	.01(O) f=7.60	.001(W) f=18.31	NS	NS	NS	NS
Marolla Source of Self Esteem Scale	NS*(O) f=2.75	NS	NS	NS	NS	.05[8] f=5.34
Autonomous Criteria for Evaluating School Success (Interview)	.001(O) f=17.94	NS	NS	.05[9] f=3.89	NS	NS
Attitudes Toward School Scales						
Revised Weiss Att. Toward Teacher....	.001(O) f=43.78	NS	NS* f=2.62	NS	NS	NS
Revised Weiss Att. Toward School.....	.001(O) f=33.49	NS	.001(F) f=13.12	NS	NS	NS
Dillon School Alienation........	.01(O) f=6.65	.001(W) f=11.17	NS	NS	NS	NS
Social Desirability, Childrens' Scales						
Childrens' Social Desirability: Lunneborg and Lunneborg..........	.001(O) f=20.85	.01(B) f=7.86	NS	NS	NS	NS

Table 15 (continued)

Significance of Differences and Interactions for School, Race, and Sex On Pool of Potential Outcome Variables Grouped by Types of Potential Outcomes

(Raw Scores, All Schools - 6, 7, & 8th Graders as of Fall, 1974)

	Significance Level for main effect			Significance Levels of interaction effects		
	Sch	Race	Sex	Sch-Race	Sch-Sex	Race-Sex
Miscellaneous and Program Implementation						
McPartland Students' Perception of School Openness	.001(O) f=140.00	NS	NS	NS	NS	NS
SIPQ II: Time School allows for Performance Relative to 5 Salient Self Conceptions....	.001(O) f=19.52	NS	NS	NS	.05[12] f=4.27	NS
SIPQ IV: How much time spent in school on all possible identity pegs	.001(O) f=31.04	NS	NS	.05[13] f=4.15	NS	NS
Defensiveness-Acting Out Teacher Behavior Rating	.05(T) f=5.67	NS*(B) f=3.04	.01(M) f=8.87	NS	NS	NS

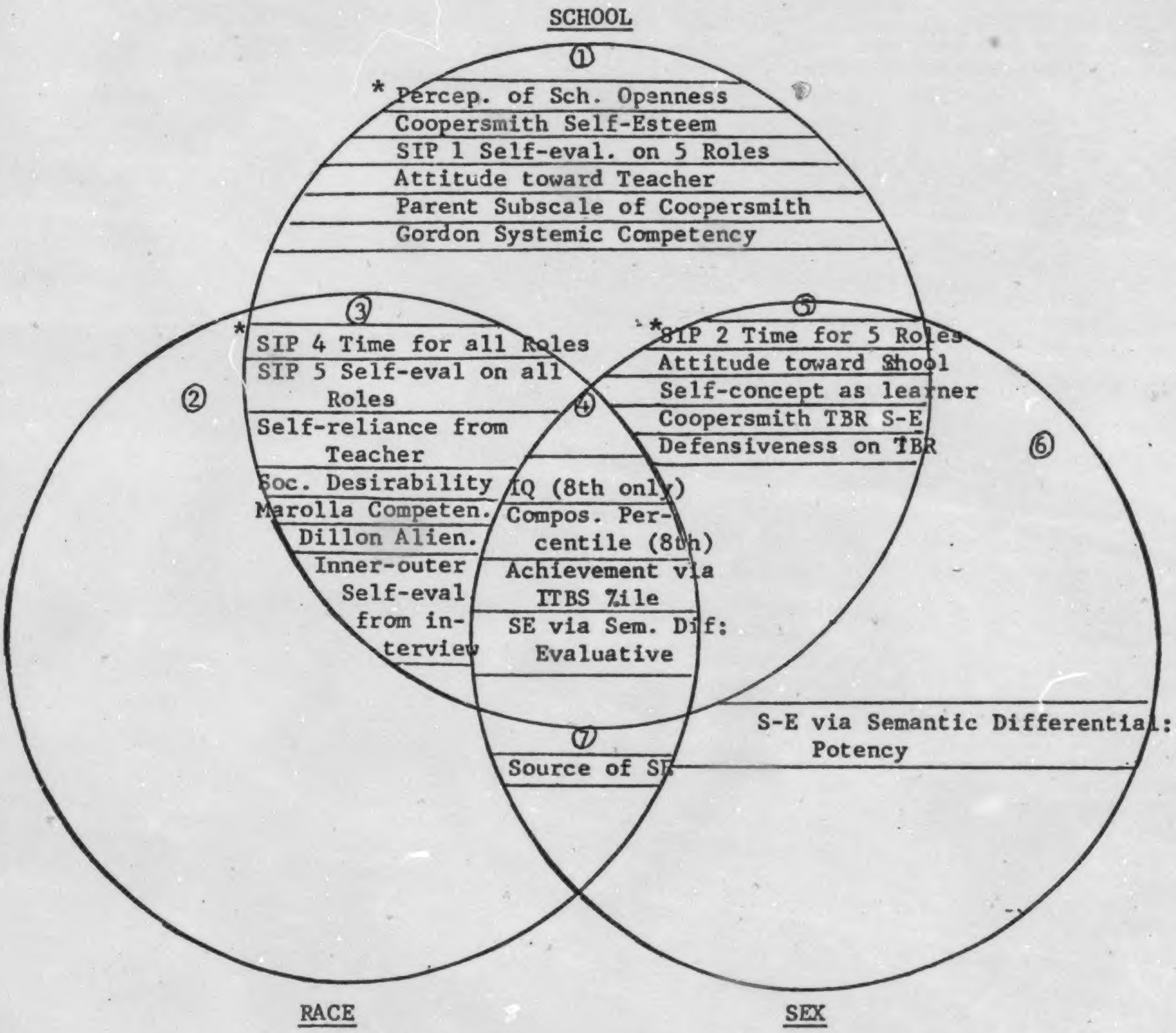
Footnotes For Table 15

2. School effect is stronger for Blacks (Traditional Hi)
3. School effect is stronger for males (Traditional Hi)
4. Race effect is stronger for females (White Hi)
5. School effect is stronger for whites (Traditional Hi)
6. School effect is stronger for males (Traditional Hi)
7. Race effect is stronger for females (White Hi)
8. Black males Higher than Black Females, reverse for Whites.
9. Open White Higher than Open Black, reverse for Traditional.
10. School effect is stronger for females (White Hi)
11. Race effect is stronger for females (White Hi)
12. School effect is stronger for females
13. School effect is stronger for whites

Figure 1

VENN DIAGRAM

Presenting 3 Way Anova Findings from Table 15: School-Sex-Race Effects


SCHOOL
①
* Percep. of Sch. Openness
Coopersmith Self-Esteem
SIP 1 Self-eval. on 5 Roles
Attitude toward Teacher
Parent Subscale of Coopersmith
Gordon Systemic Competency
②
③
* SIP 4 Time for all Roles
SIP 5 Self-eval on all Roles
Self-reliance from Teacher
Soc. Desirability
Marolla Competen.
Dillon Alien.
Inner-outer Self-eval from interview
④
IQ (8th only)
Compos. Percentile (8th)
Achievement via ITBS %ile
SE via Sem. Dif: Evaluative
⑤
* SIP 2 Time for 5 Roles
Attitude toward School
Self-concept as learner
Coopersmith TBR S-E
Defensiveness on TBR
⑥
S-E via Semantic Differential: Potency
⑦
Source of SE
RACE
SEX

Marolla Looking Glass Self NS all categories least students' perception of it. As one would have to hypothesize, these do fall within the school circle. (See asterisks in Venn diagram). Race seems to be important, never by itself but in interaction with the school influence. The larger number of variables in areas 3 and 4 (compared to area 5 and 6) implies the relevancy of these data to policy making decisions since it means that the effect of school on outcomes is very often qualified by race. This is true in 12 out of 22 cases. Only on the potency measure of the semantic differential is there a single main effect other than school. Previous work has disclosed a disproportionate tendency for girls to register lower than males on potency and higher than males on evaluative dimensions of self descriptions. This is interpreted to be a result of sex-role differences. Only two variables emerge as simply not empirically confirmed school outcomes in any sense of the word--the Marolla Looking Glass self scale measuring the subjects' perception of persons' responses to him (positive-negative). The Marolla source of self-esteem (via other persons' responses or one's own competencies) was the other variable with non-significance across all possible effects. Actually there was a school effect here but only at the .10 level with open school students stating a greater reliance on their own competencies in forming their self-esteem rather than depending on persons responses to them per se.

Note from Table 15that interaction effects are relatively rare with the exception of the three scores from the academic achievement tests. Out of 54 possibilities for interactions on the remaining "dependent variables" only two emerge. With the exception of academic achievement, the "higher" mean scores in terms of what would be desirable were mostly all exhibited by open schools. These school differences were most pronounced for attitudes toward school and teachers with an "F" ratio of 33.49 and 43.78 respectively. Other relatively large differences in the open school direction were exhibited by the Waetjen Liddle Self Concept as Learner Scale, considered here as an indicant of inner self-esteem. Social Desirability Scores are notably higher in the open schools, a fact that needs further explanation and underscores its import as a control variable. While "F" ratios above were usually in the higher teens, the ratios for achievement differences (which are mostly due to socio-economic background) are only 7.6 and 3.4. The comparative effect of SES and school on achievement will be analysed in detail later.

Table 16 presents findings relevant to assessing the validity of the standardizing procedure necessitated by the correlation of race and/or sex with many of the outcome variables. Here the pooled z-scores have been tested with a one-way analysis of variance for differences between open and traditional schools. These data demonstrate that standardization is adequate to the task of preserving the school effects emerging from the three-way ANOVA based on raw scores.

A Comparison of School Effects Viewed in Terms of the Open/Traditional Dichotomy or Degree of Openness Along a Continuum

Method. Up to this point open and traditional schools were conceived as either-or-categories. That is, all traditional schools are viewed as similar and all open schools are viewed as similar. The descriptive material from the various program implementation measures suggests that within open and traditional groups there are sizable differences. Especially within the open schools many differences are as large as they are between the open and traditional dichotomy. The analysis in this section is designed

Table 16

Comparisons Of School Effects Using Raw Scores And Standardized Scores

Significance Level of School Effect	Significance Level of School Effect				
Raw Scores	z Scores				
	NS	.10	.05	.01	.001
NS	4	1	0	0	0
.10	1	2	0	0	0
.05	0	1	2	0	0
.01	0	0	4	1	0
.001	0	0	0	1	10

to disclose whether within-group differences are as meaningful in producing significant outcomes as are between-group differences; that is, will the simpler open-traditional category be sufficient to describe our findings or is analysis improved by a conceptualization involving a continuum of degree of program implementation. If, as is anticipated, differences within the 5 open and within the 2 traditional schools are frequently significant, steps toward an explanation of these differences can be taken. At this point four dimensions of program implementation can be separately introduced and evaluated as to their relative importance in producing a given outcome (see Graph 1 for a crude assessment of how open and traditional schools rank among themselves along the three dimensions of (1) freedom of choice (2) degree of control and (3) quality of control). A fourth dimension of program implementation involves the childrens' own perception of openness utilizing the McPartland measure. This subjective component will be added to the three more "objective measures" above in determining their single and combined effects on the outcome measures. It may well be that subjective perception of openness serves as a critical intervening link between school setting and individual outcomes. First a step-wise multiple regression will be presented predicting dependent measures from the three school implementation measures. A second step-wise regression will disclose the relative amount of variance explained by the additional step of subjective perception of openness.

Findings

Table 17 presents significance levels for three sets of comparisons (each based on pooled standardized scores): (1) open vs. traditional schools

Table 17

Effects of School: Within Open and Traditional Groupings and Between Open and Traditional Groupings

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Significance Levels from One Way Anovas on z-Scores
F-ratios and t-scores are also indicated

	Open vs. Traditional	Within Traditional	Within Open
	Academic Achievement Tests		
1. Iowa Basic Skills National Percentiles	.05 (T)[1] f = 5.99	NS t = .26	.01 f = 4.21
2. High School Placement Composite Percentile (8th grade only)....	NS*(T) f = 3.32	.01 t = -2.77	NS f = .59
3. High School Placement IQ Score (8th Grade only)...............	NS f = 1.52	NS* t = -1.93	NS f = .75
	General Self-Esteem		
1. Global Self-Esteem via Coopersmith Self Report.......	.001(O) f = 12.24	NS t = .28	.05 f = 2.47
2. Parent, Home Related Self-Esteem Coopersmith Self Report Sub-scale..........	.05 f = 4.26	NS t = -1.10	NS f = 1.67
3. Self-Esteem via Coopersmith Teacher Behavior Rating of Student	NS*(O) f = 3.31	.01 t = -3.22	.001 f = 11.39

[1] T=Traditional schools have highest means, O=Open schools are highest.
* = Significant at .10 level but not .05

Table 17 (contined) p.2

Effects of School: Within Open and Traditional Groupings and Between Open and Traditional Groupings

Significance Levels from One Way Anovas on Z-Scores
f-ratios and t-scores are also indicated

	Open vs. Traditional	Within Traditional	Within Open
Competency Based Self-Esteem			
1. Gordon Systemic Competency.....	NS*(0) f = 2.94	NS t = .21	NS f = 1.01
2. Marolla Competency Based Self-Esteem	.001(0) f = 10.92	NS t = -.85	.05 f = 2.76
3. Waetjen, Liddle Self Concept as a Learner..........	.001(0) f = 13.45	.05 t =-2.25	NS* f = 2.24
4. SIPQ I: Self Eval. of Perf. on 5 Roles Salient to Self Conceptions.......	.01(0) f = 7.21	NS t = -.39	.05 f = 2.64
5. SIPQ V: Self Eval. on School Perf. on all possible identity pegs	.05(0) f = 4.00	NS t = -1.03	.01 f = 3.84
Socially Based Self-Esteem			
1. Marolla Looking Glass Self Scale	NS f = .95	NS t = -.02	NS f = .58
Self-Esteem via. Semantic Differential			
1. Evaluation Dimension	.01(0) f = 8.37	NS t = -.75	.05 f = 3.21
2. Potency Dimension	NS f = 1.98	.05 t = 2.53	NS* f = 1.91

Table 17 (continued) p.3

Effects of School: Within Open and Traditional Groupings and Between Open and Traditional Groupings

Significance Levels from One Way Anovas on Z-Scores
f-ratios and t-scores are also indicated

	Open vs. Traditional	Within Traditional	Within Open
Autonomy and Self-Reliance			
1. Grout Self-Reliance from Teacher.......	.05(0) f = 5.76	.001 t = -3.39	.001 f = 4.63
2. Marolla Source of Self-Esteem Scale	NS f = 2.16	NS t = 1.20	NS f = .98
3. Autonomous Criteria for Evaluating School Success (interview)........	.001(0) f = 14.92	.05 t = 2.27	.05 f = 2.98
Attitudes Toward School Scales			
1. Revised Weiss Att. Toward Teacher..,	.001(0) f = 35.98	NS t = -.10	.001 f = 5.36
2. Revised Weiss Att. Toward School....	.001(0) f = 26.23	NS t = -.66	NS f = 1.66
3. Dillon School Alienation..,	.05(0) f = 5.30	.001 t = -3.51	NS f = 1.60
Social Desirability, Children's Scales			
1. Lunnenborg and Lunnenborg Scale	.001(0) f = 16.32	NS t = -.17	.05 f = 3.30
Miscellaneous and Program Implementation			
1. McPartland Student Perception of Sch. Openness (not outcome varble)	.001(0) f = 98.60	NS t = -1.29	.001 f = 11.05

Table 17 (continued) p.4

Effects of School: Within Open and Traditional Groupings and Between Open and Traditional Groupings

Significance Levels from One Way-Anovas on Z-Scores
f-ratios and t-scores are also indicated

	Open vs. Traditional		Within Traditional		Within Open	
Miscellaneous and Program Implementation (continued)						
2. SIPQ II: Time School Allows for Perf. Relative to 5 Salient Self-Conceptions.....	.001(0)	f = 22.37	.05	t = -2.02	NS*	f = 2.15
3. SIPQ IV: How much Time Spent in Sch. on all Possible Identity Pegs....	.001(0)	f = 23.04	.001	t = -3.40	.01	f = 3.39
4. Defensiveness-Acting Out-Teacher Behavior Rating	NS	f = 3.79	NS	t = .42	NS*	f = 2.02

(2) open schools among themselves and (3) traditional schools among themselves. In general the within group differences, confirm the contention that the simple open vs. traditional dichotomy is an incomplete descriptor for school environment. This is, differences within the school groupings are as important as those between them.

Figure 2 (page 136)is derived from Table 17 in order to present it's findings in a more meaningful manner. The vertical axis represents significance levels for differences "within" the open school grouping while the horizontal axis represents the levels of significance for open and traditional "between" group differences. The table can then be analyzed in terms of its four quadrants: The lower right-hand corner represents outcomes coming from the type of school per se where within-group differences do not exist or are questionable. The upper right-hand corner is comprised of variables for which within-group, and between group differences are very significant. Since program implementation is derived from a ranking of the schools on a continuum one would expect these measures to appear in the upper right-hand corner where both between and within-group differences are of maximal significance. The upper left corner is suggestive of an anomoly since one would think that within group differences would not appear without between-group differences. At present this quadrant is taken to be suggestive of a spurious relationship or other presently unfathomable "mysteries".

According to Figure 2, the best-established outcome variables are Grout's Self Reliance from Teacher Scale and attitude toward teacher; the correlary to the latter--attitude toward school does not demonstrate the

FIGURE 2

Diagramatic Presentation of Effects of School:
Within and Between Group Differences by Level of Significance,
Derived from Table 17 (1973-74 Data, all schools, 6-8th grades)

Signif. Level of Open vs Trad. School Differences →

Sig. Level of Within Open School Diffs. ↑	NS	.10	.05	.01	.001
.001		Coop. Teacher Rated SE	Grout Self-Rel. from Teacher*		Percep. of Openness Att. toward Teacher
.01			SIP 5 Self-Eval on all roles Iowa Basic Skl Natl. %ile		SIP 4 Time fo all roles*
.05				Sem. Dif. SE: Evaluative SIP 1 Self-Eval on 5 roles	Marolla Comp. Coopersmith SE Soc. Desirability (LL) Autonomous Criteria fo Sch. Eval.*
.10	Sem. Dif. SE: Potency* Teacher rated Defensiveness				Self-Concept As Learner SIP 2 Time for 5 roles *
NS	Hi School Placement IQ Marolla Look-Glass Self Marolla Source of SE	Gordon Syst. Competency Hi School Placement Comp. %ile *	Dillon Alienation * Coop. SE: Parent Sub-Scale		Att. toward School

* Designates variables that also differ within Traditional grouping at least at the .05 level of significance.

desired within open school differences to establish it positively as an effect of openness per se, though this is still most likely. Four other variables demonstrate both strong between-group differences (at the .001 level) as well as significant within-group differences at the .05 level. This would qualify them temporarily as "level two" outcomes (in terms of significance levels). They are:

1) Marolla's Competency Based Self-Esteem
2) Coopersmith's Self Reported Self-Esteem
3) The interview item regarding autonomous criteria for the students evaluation of school success
4) Social desirability for children (Lunneborge and Lunneborge)

"Level three" variables are those characterized by .05 to .01 significance levels in both between and within group differences. These are:

1) Self Evaluation on all roles given on check list (SIPQV)
2) The Iowa Basic Skills Test for Academic Achievement (National Percentiles)
3) The evaluative Component of the Semantic Differential Self-Esteem
4) Self Evaluation of Performances on activities congruent with Salient Self Conceptions (SIPQI)

The next bracket (level four) could be referred to as the "probable outcome grouping" though some may consider this an over harsh epithet. It includes the familar Waetjen Liddle Self Concept as Learner Scale as well as another program implementation measure reflecting students' reports regarding the amount of time they can spend doing things at school that are relevant to their salient identities.

Outcomes that do not at present seem to be a function of school type are:

1) High school placement IQ scores
2) Marolla Looking Glass Self Self-Esteem
3) Marolla Source of Self-Esteem
4) High school placement composite percentile

The above were actually not expected to be related to school. More surprising in the same category however were:

5) Semantic differential Self-Esteem Potency dimension
6) Teacher behavior rated acting out or defensiveness
7) Gordon's Systemic Competency

It is very possible that one atypical school can cancel out a "true" lineal relationship between openness and an outcome. Frequently bar graphs are much more useful simply because they can show this whereas a single correlational coefficient can not.

A close look needs to be given to the social desirability variable and the Coopersmith Teacher Behavior Rating Form needs close attention.

Stepwise Regression Based on Program Implementation Dimension

Table 18 presents data from a step-wise regression describing the relative contributions of the three objective dimensions of the observer-rated program implementation scale.[3] Results are shown in terms of significance level, directionality of each entering predictor, final significance and multiple correlation coefficient.[4]

In general the final significance levels are high, indicating that the implementation measures are relevant to the outcomes and that they explain the between-school differences adequately. On the other hand, multiple correlations are fairly low; the predictors are making a significant difference but do not explain much of the variation. This agrees with other research into school effects on children.[5]

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[3] These analysis have been made with an F-to-enter of 1.0 so that predicators can enter when not significant, but cannot enter if they decrease the amount of explained variance.

[4] Note that the direction in which a predictor enters is sometimes a reversal from the expected direction when the F-to-enter is not significant. This is a result of interdependence among the predictors.

[5] See for example Anderson (1972) in his study of schools, bureaucracy an alienation of students.

Table 18

Stepwise Regression Based on Three Dimensions of the Freedom Within Limits Checklist as Indicants of School Type.

	Stepping Information				Final Statistics	
Outcome Variables	Step	Predictor entered	Direction	Significance of F to enter	Multi R	Significance Level
Academic Acheivement Tests						
Iowa Basics Skills National Percentiles	1	Control amount	+	.001	.14	.001
High School Placement Composite Percentiles (8th grade only)	1	Control Amount	+	NS	.12	NS
High School Placement IQ Score (8th grade only)	1	Control Amount	+	NS	.09	NS
General Self-Esteem						
Global Self-Esteem via Coopersmith Self Report	1	Control Amount	+	.001	.14	.001
Parent, Home Self-Esteem Coopersmith Self Report Subscale	1	Control Amount	-	.05	.10	.05
Socially Based Self-Esteem						
Marolla Looking Glass Self Scale	1	Control Quality	+	NS	.05	NS
SD: Childrens' Scales	1	Student Freedom	+	.001	.16	.001
Childrens' Soc. Desiribility	2	Control Amount	-	NS		
Autonomy and Self Reliance						
Grout Self-Reliance	1	Student Freedom	+	.001	.25	.001
from Teacher	2	Control Quality	+	NS		

Table 18 (continued)

Stepwise Regression Based on Three Dimensions of the Freedom Within Limits Checklist as Indicants of School Type.
(Con't)

	Stepping Information				Final Statistics	
Outcome Variables	Step	Predictor entered	Direction	Significance of F to enter	Multi R	Signigicance Level
Marolla Source of Self-Esteem Scale	1	Student Freedom	-	.05	.08	.05
Autonomous Criteria for Evaluating School Success (Interview)	1	Stu-Freedom	+	.001	.24	.001
	2	Ctrl-Amount	+	.05		
	3	Ctrl-Quality	-	.001		
Attitudes Towards School Scales						
Revised Weiss	1	Student Freedom	+	.001	.25	.001
Attitude Toward Teach	2	Control Quality	-	.05		
Revised Weiss	1	Student Freedom	+	.001	.22	.001
Attitude Toward School	2	Control Amount	-	.001		
Dillon School Alienation	1	Control Quality	+	.001	.15	.001
	2	Student Freedom	+	NS		
Self-Esteem via Coopersmith Teacher	1	Control Quality	+	.01	.15	.001
Behavior Rating	2	Control Amount	-	.001		
	3	Student Freedom	-	.001		
Self-Esteem via Semantic Differ;	1	Student Freedom	+	.01	.12	.01
Evaluative Dimension	2	Control Amount	-	NS		

Table 18 (continued)

Stepwise Regression Based on Three Dimsnsions of the Freedom Within Limits Checklist as Indicants of School Type.

	Stepping Information				Final Statistics	
Outcome Variables	Step	Predictor entered	Direction	Significance of F to enter	Multi R	Significance Level
Self-Esteem via Semantic Differ; Potency Dimension	No Results	--	--	--	--	--
Competency Based Self-Esteem						
Gordon Systemic Competency	1	Student Freedom	+	.05	.08	.05
Marolla Competency Based Self-Esteem	1	Student Freedom	+	.001	.16	.001
Waetjen, Little Self Concept as a Learner	1	Student Freedom	+	.001	.17	.001
SIPQI: Self-Eval on Perf. on 5 roles Salient to Self Conceptions	1	Ctrl-Amount	-	.05	.16	.01
	2	Ctrl-Quality	+	.05		
	3	Student Freedom	-	NS		
SIPQIII:Self Eval (in School) of Perf. on 5 Roles Salient to Self Conceptions		——		——	——	——
SIPQV: Self Eval on School Situated	1	Control Amount	-	.05	.14	.05
Perf. on all Possible	2	Control Quality	+	NS		
Identity pegs	3	Student Freedom	-	NS		
Miscellaneous Program Implementation						
SIPQII:Time School Allows for Perf. Rela to 5 Salient Self Conceptions	1	Student Freedom	+	.001	.19	.001

Table 18 (continued)

Stepwise Regression Based on Three Dimensions of the Freedom Within Limits Checklist as Indicants of School Type.
(Con't)

	Stepping Information				Final Statistics	
Outcome Variables	Step	Predictor entered	Direction	Significance of F to enter	Multi R	Significance Level
SIP IV: How much time in school on all possible identity pegs	1	Student Freedom	+	.001	.21	.001
Defensiveness-Acting Out-Teacher Behavior Rating	1	Control Amount	+	.001	.14	.001

McPartland Perception of Openness
1. Student + .001 .36 .001
Freedom
2. Control - .001
Amount

Table 19 demonstrates the importance of the student's individual perception of openness within the boundaries and limitation imposed by "objective" program implementation, at least as determined by the observers. The student's perceptions increase the multiple correlations in all but three cases. In 6 cases however, the increase in multiple correlations is only four points or lower. In 6 cases there is an increase of over eleven points.

As a next step, the three dimensions of the objective program implementation measure are parceled out to see if school differences continue to exist. If no difference remains between schools on a particular variable than one can conclude that the three program implementation dimensions have explained all the variance to be explained. If differences still remain, one is directed to other antecedent variables to help explain the remaining variance. This analysis is presented in Table 20, page 148. Note that the student's perception of openness has not yet been included here. In the column showing open vs. traditional differences, nine outcomes show no remaining variance to be explained. Among these for which further explanations of variance can be sought are: (1) the Grout Self Reliance from Teacher Scale, (2) Self Concept as Learner and (3) the Dillon School Alienation Scale. This does not detract from the "outcome status" for these variables, it simply means that the program implementation measures do not explain all the between group differences in them.

Grouping of Thirteen Final Outcomes

This chapter has presented a set of qualifications for placing an original pool of 22 variables into a classification system representing four levels of evidence that outcomes are the result of exposure to open

Table 19

Stepwise Regression Based on Children's Perceptions of School Control and Observer Measures

	Stepping Information				Final Statistics	
Outcome Variables	Step	Student Perception and Observer Measures	Direction	Significance of F to enter	Multi R	Significance Level
Academic Achievement Tests						
Iowa Basic Skills National Percentiles	1	McPop	+	.001	.28	.001
	2	Control amount	+	.001		
	3	Control quality	-	.001		
High School Placement Composite Percentile (8th grade only)	1	Control amount	+	NS	.24	.05
	2	McPop	+	.05		
	3	Student freedom	-	NS		
	4	Control quality	+	.05		
High School Placement IQ score (8th grade only)	1	McPop	+	NS	.23	.05
	2	Control amount	+	.05		
	3	Student freedom	-	NS		
	4	Control quality	+	.05		
General Self-Esteem						
Global Self-Esteem via Coopersmith Self Report	1	McPop	+	.001	.21	.001
	2	Student freedom	+	NS		
Parent,Home Related Self-Esteem Coopersmith Self Report Sub-scale	1	McPop	+	.001	.15	.001
	2	Control amount	-	NS		
Socially-Based Self-Esteem Marolla Looking Glass Self Scale	1	McPop	+	.001	.23	.001
	2	Control amount	+	.05		

Table 19 (continued)

Stepwise Regression Based on Children's Perceptions of School Control and Observer Measures

	Stepping Information				Final Statistics	
Outcome Variables	Step	Student Perception and Observer Measures	Direction	Significance of F to enter	Multi R	Significance Level
Social Desireability Children's Scales						
Children's Social Desireability Lunnenborg and Lunnenborg	1	Student freedom	+	.001	.16	.001
	2	Control amount	-	NS		
Autonomy and Self-Reliance						
Grout Self Reliance from Teacher	1	McPop	+	.001	.25	.001
	2	Control quality	+	.01		
Marolla Source of Self-Esteem scale	1	McPop	-	.05	.12	.05
	2	Control quality	-	.01		
Autonomous Criteria for Evaluating School Success (interview)	1	Student freedom	+	.001	.26	.001
	2	McPop	+	.05		
	3	Control amount	+	.01		
	4	Control quality	-	.001		
Attitudes Toward School Scales						
Revised Weiss Attitude Toward Teacher	1	McPop	+	.001	.30	.001
	2	Student freedom	+	.001		
	3	Control quality	-	NS		
Revised Weiss Attitude Toward School	1	McPop	+	.001	.26	.001
	2	Student freedom	+	.001		
	3	Control amount	-	.01		
Dillon School Alienation	1	McPop	+	.001	.21	.001
	2	Control quality	+	.01		
Self-Esteem via Coopersmith Teacher Behavior Rating	1	McPop	+	.001	.24	.001
	2	Control quality	+	NS		
	3	Student freedom	-	.001		

Table 19 (continued)

Stepwise Regression Based on Children's Perceptions of School Control and Observer Measures

	Stepping Information				Final Statistics	
Outcome Variables	Step	Student Perception and Observer Measures	Direction	Significance of F to enter	Multi R	Significance Level
Self-Esteem via Semantic Differ; Evaluative Dimension	1	McPop	+	.001	.15	.001
	2	Student freedom	+	NS		
Self-Esteem via Semantic Differ: Potency Dimension	1	McPop	+	.001	.16	.001
Competency Based Self-Esteem						
Gordon Systemic Competency	1	McPop	+	.001	.17	.001
Marolla Competency Based Self-Esteem	1	McPop	+	.001	.23	.001
	2	Student freedom	+	.01		
	3	Control amount	+	NS		
Waetjen, Little Self Concept as a Learner	1	McPop	+	.001	.24	.001
	2	Student freedom	+	.01		
SIPQ I:Self Eval. of Perf. on 5 Roles Salient to Self Conceptions	1	McPop	+	.001	.18	.01
	2	Control amount	-	NS		
	3	Control quality	+	NS		
SIPQ III: Self-Eval (in school) of Perf. on 5 Roles Salient to Self Conceptions		——		——	——	——
SIPQ V: Self Eval on school situated Perf. on all possible identity pegs	1	McPop	+	.001	.18	.01
	2	Control amount	-	NS		
Miscellaneous Program Implementation						
SIPQ II: Time School Allows for Performance Relative to 5 Self Conceptions*	1	McPop	+	.001	.26	.001
	2	Student freedom	+	.01		

Table 19 (continued)

Stepwise Regression Based on Children's Perceptions of School Control and Observer Measures

	Stepping Information				Final Statistics	
Outcome Varibles	Step	Student Perception and Observer Measures	Direction	Significance of F to enter	Multi R	Significance Level
SIPQ IV: How much time spent in school on all possible identity pegs	1 2	McPop control quality	+ +	.001 .01	.32	.001
Defensiveness-Acting Out Teacher Behavior Rating	1 2	Control amount McPop	+ -	.001 NS	.15	.01

*This is not an outcome variable but is a subjective index of openness.

Table 20

Residual Variance Left From Partialling Out The Observers' Program Implimentation Measures For Variables Established as Probable Outcomes From Table VI (6-8th grades, Scores Standardized on Race and Sex) 1973-74 Data

Level of Outcome from Table VI	Variable Name	Open vs. Traditional		F Ratios for within grp diff's across 7 schools	
		T Test	Sign Level	F Ratio	Sign. Level
Group I					
	1. Att. toward teacher	0.82	NS	10.52	
	2. Grout self reliance from teacher......	11.60	.001	6.05	
Group II					
	3. Competency based SE	2.20	NS	4.04	
	4. Coop global SE	0.00	NS	4.01	
	5. Aut. criteria for eval............				
	6. School work......	2.74	NS	6.93	
	7. Social Desirability	0.64	NS	2.31	NS
Group III					
	8. Self eval on all activities......	0.39	NS	3.90	
	9. Academic Ach. (ITBS)	0.26	NS	1.52	NS
	10. Eval. dimension of Sem. Differential SE	0.00	NS	7.26	
	11. Self eval on 5 salient identities	1.75	NS	4.50	
Group IV					
	12. Self concept as Learner........	10.54	.01	2.63	NS
	13. Att. toward School	3.91	.05	5.48	
	14. Dillon Alienation	18.78	.001	8.02	
Program Implimentation Measures					
	1. McPart. Students Perc. of Openess	36.53	.0001	19.67	
	2. How much time spent in school on all poss. identity pegs	0.17	NS	3.90	

programs. These form a continuum of likelyhoods that school differences on these variables are a result of school program differences. Level 1 (very strongest) is comprised of those variables exhibiting (1) highly significant main effects on school differences in the open direction after "blocking" on sex and race (2) highly significant differences within open schools (3) highly significant differences within all 7 schools and (4) a relatively high multiple r on the step-wise regression performed on the three dimensions of the FLOS program implimentation scale. Levels 2 and 3 are comprised of variables meeting these requirements but at lower levels of significance (see the two summary tables 21 and 22, concluding this chapter). The 4th, least stringent level meets the following requirements: (1) significant main effect on school differences blocking on sex and race (2) significant differences between school types and (3) among the 7 schools the requirement of significant differences within *open* schools is dropped for the probable level group. In this regard one should remember that one atypical school can seriously effect the level of significance. Also it must be remembered that one traditional school is significantly more open than the other, so the 7 school ranking is reflective of a continuum from traditional to open schools. (See Table 22 for data regarding significance among all 7 schools.)

Thirteen variables met the criteria for actual empirical outcomes. In all these significance of differences among the 7 schools was .01 or above. All exhibited significant between groups differences and ten exhibited significant open school differences. The variables are ranked in the 4 categories in Table 21 and are presented here also:

Level I

1. Attitude toward teacher
2. Grouts' Self Reliance from Teacher

Level II

3. Marollas' Competency Based Self-Esteem
4. Coopersmiths' Self Reported Global Self-Esteem
5. Interview item: Use of autonomous criteria in evaluation of school work
6. Lunnenborg and Lunnenborg Childrens' Social Desirability

Level III

7. Self Evaluation of Performance on all activities presented on SIP check list (Marolla)
8. Iowa Basic Skills for Academic Achievement (National Percentile)
9. Self-Esteem Evaluative Component
10. Self-Evaluation of Performance on the 5 Most Salient Self Conceptions (Marolla SIP check list)

Level IV

11. Waetjen-Liddle Self Concept as a Learner
12. Attitude toward School
13. Dillon Alienation from School

It would be unwise to minimize the importance of the three Level IV variables. The step-wise regressions that include the students' perception of openness generate highly significant multiple rs and the within group differences among all 7 schools are highly significant (.001 or more). They just did not produce significant within group differences among open schools at the .05 level or higher. In conclusion then, thirteen outcomes remain from this original sifting process.

Table 21

Summary Table (All schools, Grades 6-8, First year data only)

	Levels of Signifcnce of Difrncs for Sch-Race-Sex (3-way Anova-Raw Score)		Signifcnce Levels by School Type (from 1-way Anova, Z-score)			STEP REGRESSION OF PROGRAM IMPLEMENTATION: 3 dimensions of FLOS Scale		STEP REGRESSION OF PROGRAM IMPLEMENTATION: Same but Perception Openness Added	
	Mn. Effect	Intractn. Effect	BTWN Op&Tr	WTHIN Open	WTHIN Trad	Mult R	Signf	Mult R	Signf
I. Very Strongest									
1. McPart. Prcptn. of Opnness (Not Outcome Variable)	Sch .001 (0)		.001(0)	.001	NS	(.36)	(.001)	—	—
2. Att. Toward Teacher	Sch .001 (0)		.001(0)	.001	NS	.25	.001	.25	.001
3. Grout's Slf. Rlnce. from Tchr.	Rce .001(W) Sch .01 (0)		.05 (0)	.001	.001	.25	.001	.25	.001
II. Strong									
1. Marolla's Cmptncy Bsd Slf-Estm	Sch .001(0) Rce .05 (W)		.001(0)	.05	NS	.16	.001	.23	.001
2. Coopersmith Slf Rprtd Glbl SE	Sch .001(0)		.001(0)	.05	NS	.14	.001	.21	.001
3. Interview item autonomous criteria for Slf Eval of Schwk	Sch .001(0)	Sch-R .05	.001(0)	.05	.05	.24	.001	.26	.001
4. Children's Social Dsrablty.	Sch .001(0) Rce .01 (B)		.001(0)	.05	NS	.16	.001	.16	.001
III. Adequate									
1. Slf Eval on all actvts. on checklist SIPQ V	Rce .001(B) Sch .05 (0)		.05 (0)	.01	NS	.14	.05	.18	.01
2. Iowa Bsc Skls for Acdmc Ach NP	Rce .001(W) Sch .01 (T) Sex .05 (F)	Sch-R .05	.05 (T)	.01	NS	.14	.001	.28	.001
3. Evlutv Compnt of Semantic Dif	Sch .01 (0) Rce .05 (W) Sex .05 (F)		.01 (0)	.05	NS	.12	.01	.15	.001
4. Slf Eval of perf on the 5 mst Salient Self Conceptions SIPI	Sch .001(0)		.01 (0)	.05	NS	.16	.01	.18	.01
IV. Probable									
1. Waetjen-Liddle Self Concept as a Learner	Sch .001(0) Sex .01 (F)		.001(0)	NS*	NS	.17	.001	.24	.001

Table 21 (continued)

Summary Table (All schools, Grades 6-8, First year data only)

	Levels of Significnce of Dfrnce for Sch-Race-Sex (3-way Anova-Raw Scre)		Significnce Levels by School Type (from 1-way Anova, Z-score)			STEP REGRESSION OF PROGRAM IMPLEMENTATION			
						3-dimensions of FLOS Scle		Same but Perception Openness Added	
	Mn. Effect	Intreltn Effect	BTWN Op&Tr	WTHIN Open	WTHIN Trad	Mult R	Signf	Mult R	Signf
IV Probable (continued)									
2. Time sch. allows for Actvts Congrnt with 5 Salinet Self Conceptions (Test) SIP II	Sch .001(0)	Sch-Sx .05	.001(0)	NS*	.05	.19	.001	.26	.001
3. Att. toward School	Sch .001(0) Sex .001(F)		.001(0)	NS	NS	.22	.001	.26	.001
4. Dillon Alienation from School	Rce .001(W) Sch .01 (0)		.05(0)	NS	.001	.15	.001	.21	.001
V. Rejected									
1. Semantic Differntl. SE Potency	Sex .01 (M)		NS	NS*	.05	no results	NS	.16	.001
2. Tchr. Bhvr. Rated Defensiveness	Sex .01 (M) Sch .05 (T)		NS	NS*	NS	.14	.001	.15	.01
3. Gordon's Systemic Competency	Sch .05 (0)		NS*(0)	NS	NS	.08	.05	.17	.001
4. Hi-School Placement IQ Score	Rce .001(W)	Sch-Sx .05	NS	NS	NS*	.09	NS	.23	.05
5. Marolla Looking Glass Self SE	----- NS		NS	NS	NS	.05	NS	.23	.001
6. Marolla Source of Self-Esteem	----- NS	R-Sx .05	NS	NS	NS	.08	.05	.12	.001
7. Hi-Sch Placement Compsite Prcntl	Rce .001(W)	Sch-Sx .05 R-Sx .05	NS*	NS	.01	.12	NS	.24	.05
VI Other									
1. Tchr. Bhvr. Rating (Coopersmith)	NS	Sch-Sx .05	NS*	.001	.01	.15	.001	.24	.001
2. Coopersmith Slf-Rprt Slf-Estm (parent sub scale)	Sch .05 (0)		.05 (0)	NS	NS	.10	.05	.15	.001
3. Time Sch. Allows for all Roles SIP IV	Rce .001(B) Sch .05 (0)		.001(0)	.01	.001	.21	.001	.32	.001

Letters in parentheses indicate which group had highest mean (T) Traditional, (0) Open
* by NS indicates significance at .10 level

Table 21 (continued) p.2

Summary Table (All schools, Grades 6-8, First year data only)

	Levels of Signifcnce of Dfrnce for Sch-Race-Sex (3-way Anova-Raw Scre)		Signifcnce Levels by School Type (from 1-way Anova, Z-score)			STEP REGRESSION OF PROGRAM IMPLEMENTATION			
						3-dimensions of FLOS Scle		Same but Perception Openness Added	
	Mn. Effect	Intreltn Effect	BTWN Op&Tr	WTHIN Open	WTHIN Trad	Mult R	Signf	Mult R	Signf
IV Probable (continued)									
2. Time sch. allows for Actvts Congrnt with 5 Salinet Self Conceptions (Test) SIP II	Sch .001(O)	Sch-Sx .05	.001(O)	NS*	.05	.19	.001	.26	.001
3. Att. toward School	Sch .001(O) Sex .001(F)		.001(O)	NS	NS	.22	.001	.26	.001
4. Dillon Alienation from School	Rce .001(W) Sch .01 (O)		.05(O)	NS	.001	.15	.001	.21	.001
V. Rejected									
1. Semantic Differntl. SE Potency	Sex .01 (M)		NS	NS*	.05	no data		.16	.001
2. Tchr. Bhvr. Rated Defensiveness	Sex .01 (M) Sch .05 (T)		NS	NS*	NS	.14	.001	.15	.01
3. Gordon's Systemic Competency	Sch .05 (O)		NS*(O)	NS	NS	.08	.05	.17	.001
4. Hi-School Placement IQ Score	Rce .001(W)	Sch-Sx .05	NS	NS	NS*	.09	NS	.23	.05
5. Marolla Looking Glass Self SE	----- NS		NS	NS	NS	.05	NS	.23	.001
6. Marolla Source of Self-Esteem	----- NS	R-Sx .05	NS	NS	NS	.08	.05	.12	.001
7. Hi-Sch Placement Compsite Prcntle	Rce .001(W)	Sch-Sx .05 R-Sx .05	NS*	NS	.01	.12	NS	.24	.05
VI Other									
1. Tchr. Bhvr. Rating (Coopersmith)	NS	Sch-Sx .05	NS*	.001	.01	.15	.001	.24	.001
2. Coopersmith Slf-Rprt Slf-Estm (parent sub scale)	Sch .05 (O)		.05 (O)	NS	NS	.10	.05	.15	.001
3. Time Sch. Allows for all Roles SIP IV	Rce .001(B) Sch .05 (O)		.001(O)	.01	.001	.21	.001	.32	.001

Letters in parentheses indicate which group had highest mean (T) Traditional, (O) Open
* by NS indicates significane at .10 level

Table 22

Information on 16 Variables *
Derived from sex-race standardized scores
Grades 6-8, All Schools, First Year Data
(For a Translation of Measurement Symbols see following page)

	Signif. among 7 schools	Signif. T-O (BTWNGR)	Signif. within T	Signif. within O	Mult. R (3 FLOS)	Indiv. r FLOSFR	Sch $\bar{x}$ r FLOSFR	(N)
PROGRAM:								
MCPOP +	.001	.001	NS	.001	.36	.36	.77	632
SIPQ2	.001	.001	.05	NS	.19	.19	.68	480
SIPQ4 +	.001	.001	.001	.01	.21	.21	.66	440
SELF-ESTEEM:								
COOP +	.01	.001	NS	.05	.14	.14	.73	651
JOCOMP +	.01	.001	NS	.05	.16	.16	.82	642
SIPQ1 +	.01	.01	NS	.05	.16	.08	.31	486
SIPQ5 +	.01	.05	NS	.01	.14	.04	.13	440
DILAL	.001	.05	.001	NS	.15	.14	.67	634
LSC	.001	.001	NS	NS	.17	.17	.82	632
SD/EVA +	.01	.01	NS	.05	.12	.11	.53	656
SOCIAL DESIRABILITY:								
SOCDES +	.001	.001	NS	.05	.16	.15	.67	658
AUTONOMY:								
GWSR +	.001	.05	.001	.001	.25	.15	.65	635
SCHSUC +	.001	.001	.05	.05	.24	.19	.96	457
ATTITUDE TOWARD SCHOOL:								
ATS	.001	.001	NS	NS	.22	.18	.78	647
ATT +	.001	.001	NS	.001	.25	.24	.81	646
ACHIEVEMENT								
NATLPC +	.001	.05	NS	.01	.14	-.06	-.07**	577

** r with FLOS amount of Control however is .75

* These 16 variables pass these criteria:

1) Significant difference among all 7 schools
2) Significant difference between Traditional group & Open group.

(+ Indicates also significant difference within open groups)

Translations of Abbreviations for the 16 Variables listed on Table VIII (see also titles on 16 individual graphs)

A. MCPOP	McPartland Perception of Openness
B. COOP	Coopersmith Global Self-Esteem
C. COOPSC - COOPPA	Coopersmith S-E: Parent and "Low" Subscales
D. JOCOMP	Marolla Personal Competency Self-Esteem
E. JOLGS	Marolla Looking-Glass-Self Self-Esteem
F. SIPQ 1,2,4,5	Self-Eval. & School Time on 5 & All Roles
G. DILAL	Dillon "Alienation": School Competency S-E
H. LSC	Learner Self-Concept (Waetjen-Liddle)
I. GORDON	Gordon's Systemic Competency
J. SD/EVA - SD/POT	Semantic Differential: Evaluative & Potency
K. TBR - TBRDEF	Teacher Behavior Rating, & Defensiveness
L. SOCDES	Children's Social Desirability
M. SOURCE	Marolla Source of Self-Esteem
N. GWSR	Grout-Wismer Self-Reliance from Teacher
O. SCHSUC	School Success: Interview Criteria for Self-Ev
P. ATS	Attitude Toward School
Q. ATT	Attitude Toward Teachers
R. IQ - COMPOS - NATLPC	Achievement Scores: SHSP & ITBS Exams
S. FLOSFR - FLOSCA	FLOS Freedom and Control-Amount Scale: School Program Implementation Dimensions

CHAPTER VIII

COMPOSITE SCALES: A SIMPLIFICATION AND INTERNAL REPLICATION OF THE PRECEEDING FINDINGS

Introduction

This chapter presents a simplification of the plethora of data advanced so far by constructing four conglomerate "superscales" out of 18 separate outcome measures. These scales were created to make the outcome data manageable for the comparison of school and family effects to be presented in the next chapter. The individual scores on the superscales also generated a six category typology of students allowing an exploration of the distribution of these types among the various schools. While the typology is presented for descriptive purposes in this chapter, the primary emphasis is on the generation of the superscales in preparation for the analysis of home and demographic effects on the students.

The Generation of Composite Outcomes

Scores from all self-reported outcomes collected during the first fully funded year of the study were factor-analyzed to determine which scales shared a common set of variance. These empirically determined clusters of scales were then analyzed to see if the groupings shared logical attributes. Sixteen of the outcomes did indeed show a tendency to cluster into four groupings that could be identified as (1) General Self-esteem, (2) School Related Self-Esteem, (3) School Attitudes and (4) Personal Autonomy. Homogeneity ratios and internal consistancy estimates were used to further refine the clusters into acceptable instruments and to describe their scaleability. Individual scales comprising each of the conglomerate measures are listed below:

Contents of Conglomerate Scales

	Superscale Title	Abbreviations used in Tables
I.	General Self-Esteem	GENSE
	1. Coopersmith Global Self-Esteem Scale	COOP
	2. Semantic Differential-Potency Dimension	SD/POT
	3. Semantic Differential-Evaluative Dimension	SD/EVA
	4. Marolla Competency Based Self-Esteem	JOCOMP
	5. Marolla Looking Glass Self-Esteem	JOLGS
	6. Gordon Competency	GORDON
II.	School Related Self-Esteem	S/RSE
	1. Self Evaluation on all school role performances	SIPQ5
	2. Self Evaluation on 5 most salient role performances	SIPQ1
	3. Dillon Alienation from School	DILAL
	4. Waetjen-Little Learner's Self Concept	LSC
III.	School Attitudes	SCHATT
	1. Perception of role opportunities allowed by school	SIPQ4
	2. Attitude Toward School	ATS
	3. Attitude Toward Teacher	ATT
	4. Perception of role opportunities offered by school that are relevant to 5 salient self-conceptions	SIPQ2
IV.	Autonomy	AUTON
	1. Source of Self-Esteem (autonomous or other directed)	SOURCE
	2. Grout Self Reliance from teacher	GWSR

It should be stressed that these are empirically determined groupings which in some cases were not predicted by the researchers. Titles were applied *after* the clusters were determined by the factor analysis and represent simply what the researcher think the groupings describe. As a whole, the empirically generated groups do form a pattern that makes logical sense. This adds confirmation to the validity of the measures.

Table 23 presents the scaling attributes of each composite scale with data describing sub-scales from which they are constructed. The autonomy

TABLE 23

SUPERSCALES

ITEM ANALYSIS OF COMPONENTS

SCALE	HR*	REL.*	ITEM	WEIGHT	MEAN	SIGMA	R(IT)*	NSUB	NOTES
SS1 = GENSE (General Self-Esteem)	0.411	0.804	(6)		169.118	21.204		663	
			COOP	1.20	32.520	5.007	0.591	651	Reversed
			SD/POT	1.50	27.789	4.579	0.515	656	
			SD/EVA	1.60	30.288	4.338	0.408	656	
			JOCOMP	1.00	24.134	5.318	0.591	642	
			JOLGS	0.80	28.277	5.839	0.680	642	
			GORDON	1.30	26.108	4.582	0.582	641	
SS2 = S/RSE (School-Related Self-Esteem)	0.361	0.632	(4)		160.130	32.051		633	
			SIPQ5	0.20	26.826	15.751	0.658	440	Reversed
			SIPQ1	1.40	28.615	13.515	0.739	486	Reversed
			DILAL	2.50	22.871	4.978	0.175	634	
			LSC	1.60	81.818	9.186	0.194	632	
SS3 = SCHATT (School Attitudes)	0.448	0.748	(4)		85.986	19.854		653	
			SIPQ4	0.30	22.183	5.628	0.754	440	Reversed
			ATS	0.50	26.313	5.868	0.533	647	
			ATT	0.50	24.777	5.690	0.577	646	
			SIPQ2	0.60	12.712	8.624	0.424	480	Reversed
SS4 = AUTON (Autonomy)	0.280	0.436	(2)		41.320	8.379		655	
			SOURCE	1.00	14.344	5.008	0.279	641	Reversed
			GWSR	0.80	26.976	5.458	0.280	635	

* Homogeneity Ratio
* Reliability
* Item-total score correlations

SUPERSCALE INTERCORRELATIONS

	GENSE	S/RSE	SCHATT	AUTON
GENSE		.27	.33	.49
S/RSE			.61	.16
SCHATT				.07
AUTON				

measure is the weakest instrument and findings from this measure must be interpreted with this in mind. The intercorrelations below, Table 23, are noteworthy. General Self-Esteem and Autonomy produce the relatively high correlation of .49 while School Related Self-Esteem and School Attitude are not surprisingly associated at .61. Autonomy shows almost no relationship with liking school and/or self-esteem regarding school activities. School Self-Esteem seems to be markedly different from general self-esteem. The fact that these correlations are as expected adds to the validation of the four composite scales.

Finally, it should be stated that 6th graders did not respond to four of the 18 original scales. Their composite scores were adjusted to account for the missing data using the remaining scores on that factor.

Composite Scale Findings

Open and traditional school differences were greatest for School Attitude, School-Related Self-Esteem and General Self-Esteem in that order. These were more positive in open schools and school differences were highly significant at the .001 level. (See Table 24) The F ratio for School Attitude was unusually high (F = 94.3) but some of this is because the composite scale includes two scales that measure student's perceptions of objective differences in role opportunities in the school. Neither race alone or sex alone has an effect on these three scores but sex in combination with school has a small effect on school related self-esteem as does sex in three way interaction with school and race. In sum, interactions are few and small. In the 4th composite scale (Autonomy) the open schools are only a little higher than traditional schools while whites are a little higher than Blacks.

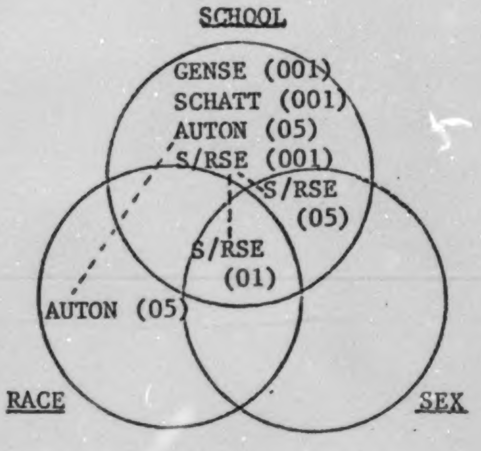
TABLE 24

SUPERSCALES
SUPERSCALES vs SCHOOL, SEX, RACE
3-Way Analysis of Variance
Levels of Significance of Differences for Main Effect & Interaction Effects
(6-8th grades, 1st year data, raw scores)
N = 669

	School-Type	Sex	Race	Interactions
SS1 (Gen. SE)	.001 open High F = 13.899	NS F = 0.067	NS F = 0.964	NS
SS2 (S/R SE)	.001 open High F = 34.670	NS F = 1.222	NS F = 1.211	Sch-Sex[1] .05 F = 4.165 Sch-Sex-Race[2] .01 F = 7.178
SS3 (SCHATT)	.001 open High F = 94.349	NS F = 0.673	NS F = 2.570	NS
SS4 (AUTON.)	.05 open High F = 5.090	NS F = 1.169	.05 white high F = 4.805	NS

[1] open-females High
[2] open-female-white High

Venn Diagram of School-Sex-Race Effects on Superscales
(Giving Level of Significance in Parentheses)



When composite scales were standardized for each sex-race group, they still show significant differences between open and traditional schools and within all seven schools individually (see Table 25). School mean scores for standardiz[illegible]perscales and the FLOS freedom dimension are presented in Graph 9. The[illegible] correlations are high since they rely on means rather than individual scores with the increased variation thereof. In order of scale number they are .86, .77, .92 and .56 respectively. As shown in Graph 9, St. Terrance is lowest on the composite scores in relation to the FLOS freedom mean. It is higher than the traditional school #6 on all measures but higher than traditional school #8 on only General Self-Esteem and school attitude.

Table 25 shows differences in the 4 composite scores after the effect of the FLOS freedom dimension of program implementation has been cancelled out. The result of this is to illiminate both between and within school differences on all composite scales. While the correlations on individual composite scores and FLOS freedom are strikingly lower than the correlation generated from the mean scores above, they are highly significant - .13, .19, .31 and .12 respectively. School Attitude (#3) is again higher than the others. Note that amount of control in the school is negatively (or simply not) related to outcomes while quality of control has a very small but significant effect on school attitude and school related self-esteem. Thus school openness is indeed most likely predicting the differences on the composite outcome scales.

Student Typologies Based on Four Composite Scales

Composite Scale Typologies may show instructive school differences. The 6 types are as follows:

TABLE 25

SUPERSCALES STANDARDIZED FOR SEX & RACE
(6-8 grades, 1st year, N = 669)

ANOVA: Significance of Difference	Between School Types		Across All 7 Schools	
	F	(P)	F	(P)
SS1 GENSE	10.83	(.001)	3.02	(.01)
SS2 S/RSE	20.02	(.001)	6.02	(.001)
SS3 SCHATT	68.01	(.001)	13.37	(.001)
SS4 AUTON	4.37	(.05)	3.34	(.01)

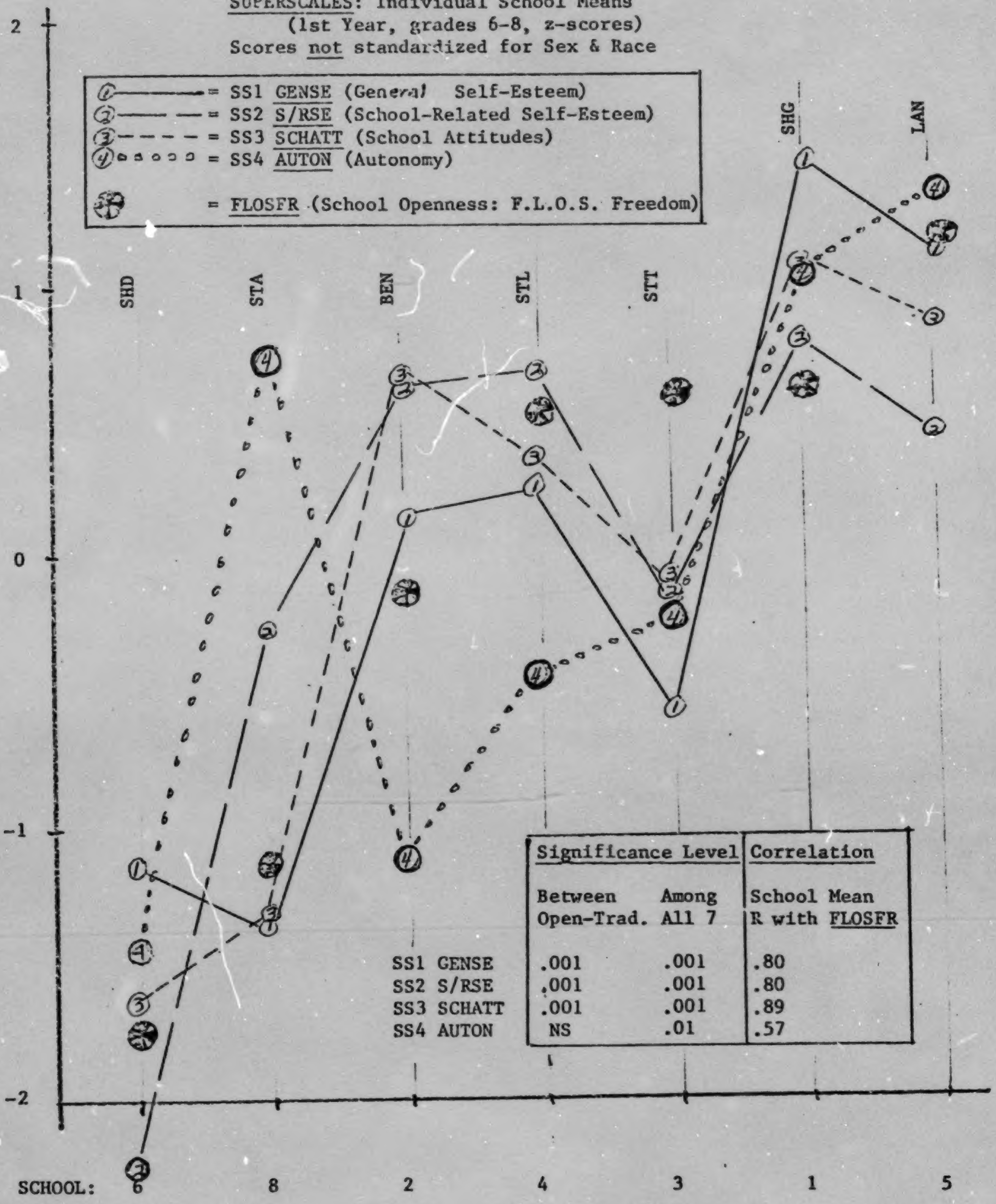
RESIDUAL ANOVA: Significance of Difference *After* Partialling Out FLOS Freedom	Between School Types		Across all 7 Schools	
	F	(P)	F	(P)
SS1 GENSE	.00	(ns)	1.06	(ns)
SS2 S/RSE	.02	(ns)	1.87	(ns)
SS3 SCHATT	.25	(ns)	1.83	(ns)
SS4 AUTON	.64	(ns)	1.72	(ns)

(only $p \leq .05$ are considered significant here)

Correlations with School Openness (FLOS)	Freedom	(P)	Control Amount	Control Quality
SS1 GENSE	.13	(.001)	-.04	.09
SS2 S/RSE	.19	(.001)	-.07	.18
SS3 SCHATT	.31	(.001)	-.13	.22
SS4 AUTON	.12	(.01)	-.03	.10

GRAPH 9

SUPERSCALES: Individual School Means
(1st Year, grades 6-8, z-scores)
Scores not standardized for Sex & Race



	Significance Level		Correlation
	Between Open-Trad.	Among All 7	School Mean R with FLOSFR
SS1 GENSE	.001	.001	.80
SS2 S/RSE	.001	.001	.80
SS3 SCHATT	.001	.001	.89
SS4 AUTON	NS	.01	.57

(See Table 26)

1. *The Down and Outer*: Very low on general self-esteem and low on the other three. Ninety-five of 669 students fall in this category.

2. *Generally low but high in School*: Very high in School Related Self-Esteem and high in School Attitude while low in the highly correlated General Self-Esteem and Autonomy (n = 87).

3. *Consistant Average*: Scoring in the middle category on all scales (n = 122).

4. *Average Self-Esteem, but low in School and Autonomy:* Low on everything but medium in General Self-Esteem (n = 72).

5. *Average Self-Esteem, low in School, high on Autonomy*: Very similar to type 4 above (n = 75). School attitude is very low instead of just low.

6. *Super Student*: Very high General Self-Esteem; high in School Attitude and Autonomy, but medium in School Related Self-Esteem.

The happiest combination, category six, is most frequently found in the open school (66 percent). Seventy-three percent of the consistantly average students were on the open schools while 86 percent of the "low except in school" students (#2) were in open schools. Almost all of the latter were 6th graders!

Sixty-four percent of the students that were low in school related measures were in the traditional schools while 72 percent of the medium and high school related scores were in the open schools (see Table 27).

As stated above, these data must be seen at this time as descriptive only, since factors brought in from personality and home experience have not been separated from factors generated by the school.

TABLE 26

TYPOLOGIES

BASED ON FOUR SUPERSCALES (NON-STANDARDIZED)

(In Boxes: Superscale z-scores, High-Medium-Low indicators)

	TYPE:	N	GENSE	S/RSE	SCHATT	AUTON
(Untypeable)	0	79				
Down & Outer	1	95	-1.37 VL	-0.86 L	-0.88 L	-0.71 L
* Ave. Kid, Super at School	2	87	-0.31 L	1.42 VH	0.80 H	-0.35 L
All-round Ave. Kid	3	122	-0.25 M	-0.22 M	0.13 M	-0.08 M
Ave. Kid (lo Auton.), Cool on School	4	72	0.20 M	-0.56 L	-0.61 L	-0.62 L
Ave. Kid (hi Auton.), Cool on School	5	75	0.09 M	-0.59 L	-1.12 VL	0.66 H
Super Kid, Ave. at School	6	139	1.07 VH	-0.01 M	0.37 H	0.84 H
	TOTAL	669				

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*With only one exception, type 2 is comprised of the youngest segment of the sample, the sixth graders.

TABLE 27

PERCENTAGE DISTRIBUTION OF STUDENT TYPES IN OPEN AND TRADITIONAL SCHOOLS
6-8th Grades; Raw Scores

Student Type	Self Esteem*	School Attitude**	Description	Percent Distribution for: Open Sch.	Percent Distribution for: Trad Sch.
1	Low	Low	All around low	28	64
4	Medium	Low	Med. in SE; low school		
5	Medium	Low	Med. in SE; low school		
3	Medium	Medium	All around medium	72	36
2	Medium	Medium	Med. in SE; hi in sch.		
6	High	Medium	Hi in SE; med in sch.		

*Self-esteem plus autonomy

**School attitude plus school SE

CHAPTER IX

HOME AND DEMOGRAPHIC INFLUENCES ON SCHOOL OUTCOMES: FAMILY INTERVIEW DATA

Introduction: Goals in this Chapter

This chapter utilizes data gathered in parent interviews to determine whether antecedent variables could be causing the differences in outcomes previously attributed to the schools. Since it was not possible to interview parents of all students this must be seen as a sub-study supplementing and strengthening previous findings, but also adding to them in terms of identifying what it is about home enviornments associated with race, that explain Black-White differences in outcomes. Urgency is added to this task by the fact that whites are disproportionately represented in the traditional schools and Blacks are over represented in the open schools.

If the aims above are to be adequately handled, explanations are needed to the following previous findings.

A1. Children in traditional schools achieve at a higher level than those in open schools--at least in the limited sense reflected by national percentile scores on the Iowa Basic Skills (Academic Achievement) Tests. The F - ratio is not high (7.64) and significance is at the .01 level. For the 8th graders no significant school differences in school types exist on the high school placement composite percentile and high school placement I.Q. score.

A2. White children achieve at a much higher level than do Black children. On the three measures mentioned in A1 above, Whites were higher at the .001 level and F ratios are high at 66., 28. and 22. respectively.

A3. Children in open schools have consistently higher scores on a wide variety of affective measures toward self and school. The creation of the composite scales simply served to underscore this finding.

A4. In two of the composite scales--School Related Self-Esteem and School Attitudes--Blacks were significantly higher at the .01 level with F ratios of 7. and 10. respectively.

Such findings present important difficulties that make further analyses very important. As they stand--especially in regard to A1 and 2--they are seriously misleading. A3 is, of course, supportive of the open schools in this study as long as the racial imbalance of the sample is not allowed to call these results into question. Furthermore, this supportive evidence is offset by the superiority of traditional schools on academic achievement tests--a deficiency that justifiably or not--has been given as a leading reason to reject open schools. This will be discussed in more depth in a concluding chapter once we have presented a complete analysis on this subject. It must be reiterated in regard to A1 that while race is easily identified, what is causing racial differences is not. Race per se--or skin color, is an unacceptable explanation to contemporary social scientists--Jenkins not withstanding. Especially here, it is critical to identify home and demographic factors that mediate the relationship between race and scholastic achievement. That is, white children sharing certain demographic factors with blacks would be assumed to have equal rates of achievement. In short, to stop this analysis at A1 would be premature--justifiably exposing this study to charges of "Blaming the victim". Finally while A4 is not substantively negative in any clear way, it is at best mystifying, and without explanation it is indicative of vague racial differences.

In this section then, a return is made to the use of raw, rather than standardized scores with the intent of obtaining deeper explanations of statements A1 - A4. Mediating variables will be partialed out of racial differences in outcomes in an attempt to identify what is behind them. Following this analysis it will be hypothesized that:

B1. Children in Traditional and open schools achieve at about the same level on the Iowa Test of Basic Academic Skills.

B2. Racial differences in scholastic achievement will disappear.

B3. Open school children will remain higher on affective measures.

B4. Racial differences currently existing on the composite scales will disappear.

If these hypotheses are confirmed, numerous purposes will be served: (1) These particular open schools will be evaluated as successful in meeting certain goals that current open school theorists agree are important to their "reason for being". (2) The effect of race will be de-mystified, i.e. demographic and environmental variables will replace race as predictor variables. (3) The internal validity of the research design will be increased adding to the methodological persuasiveness of this study. (4) Information will be generated that is relevant to the cumulative nature of social science--namely the possible replication of other findings in the area of home influences on school related attitudes and achievements.

Instruments: Parent Interviews. Instruments and Samples

Variables included in the interview questionnaire are as follows (code names to the left of each measure are utilized in Tables. "M" or "F" follows each abbreviation, representing whether it is the mothers' or fathers' response.)

I. Achievement Motivation Scale (AM)

Measuring parental attitudes regarding achievement. The scale has eight dimensions and was developed by Joseph Kahl (1965)

(1)	Occupational Primacy	AM1M,	AM1F
(2)	Mastery Over Environment	"2"	
(3)	Parent's Distrust of Others	"3"	
(4)	Activism of Parents	"4"	
(5)	Independent of Relatives	"5"	
(6)	Activism in Child-Rearing	"6"	
(7)	Accomplishments in Child-Rearing Stressed as Important	AM7	
(8)	Hesitancy to Trust Others	AM8	

II. Home Environment (relevant to child-rearing styles)*

1.	Affectionate Climate	HE1
2.	Reward Structure	HE2
3.	Authority in home	HE3

*II 1 and 2 were derived from work previously done by Richard Jessor et, al (1968) while authority in the home was taken from James M. McPartland et, al (1973) and Victor Circirelli. A more complete description of all these scales is presented in Appendix 7.

III. Parental Activism in Class Room

1.	Visit school and teacher (how many times)	AC1
2.	Knowledge of teaching methods	AC2
3.	Degree to which parent is favorably impressed with teaching methods	AC3

IV. Control Sturcture

1.	Friends (child spends most of his time with)	CS1
2.	Relatives	CS2
3.	Casual Acquaintances	CS3
4.	Other	CS4
5.	Don't Know	CS5
6.	Degree to which parents insist on child doing homework	C[illegible]
7.	Help with school work	CS7

V. Parental Community Activism

1.	Participate in any organized activities?	COM1
2.	Frequency of Participation	COM2
3.	Participate in Volunteer work?	COM3
4.	How became invloved in school activities	COM4
5.	How became involved in community activities	COM5
6.	Reason for non-involvement	COM6
7.	Participation in formal education classes	COM7

These variables did not effect outcomes and do not recieve attention here

VI. Demographic Factors

1.	Family Structure (1 parent - 2 parent)	DEM1
2.	Surname same as child	DEM2
3.	Race	DEM3
4.	Age	DEM4
5.	Household Size	DEM5
6.	Education	DEM6
7.	Employment Status	DEM7
8.	Occupation	DEM8
9.	Birth Order	BTHØRD

A more complete description of these measures along with the interview schedule is provided in Appendix 7.

Description of the Sample: The sample is a convenience one initially containing 242 families. Since many parents had more than one child in the study, one interview could provide data for several children. Thus, demographic and family data were originally collected for 341 children out of 807 possible. This represents 42 percent of the total population of children (Table 28 and 29). Broken down by schools, the highest and lowest percent return was 78% and 31% of the students respectively. Unfortunately, the second highest percent return was in the wealthy, all girls country academy and had to be eliminated from the study since it was so different from the other schools in its student population. This meant that the 1975 fifth graders had to be included in order to obtain as large a sample as possible under the circumstances. Since the 5 outcome composite scales[1] were comprised of instruments given over a two-year period, last year's scales were not administered to the 5th grade part of the sample. Thus there is no outcome data for this portion of the sample. The 5th graders are

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[1] The Iowa Test of Basic Skills is added to the 4 self-reported composite scales to represent outcomes in this chapter.

Table 28

Breakdown of Family Interviews by Parent Interviewed

January 1975

School	Total # Students (includes siblings) with one parent responding.	Total # Students (includes siblings) with both parents responding.	Total # Parental Responses per school (either one or both parents applied to each sibling)
5	13	29 (= 58 parents)	71
4	21	23 (= 46 parents)	67
3	47	29 (= 58 parents)	105
1	26	27 (= 54 parents)	80
2	20	12 (= 24 parents)	44
8	15	37 (= 74 parents)	89
6	23	19 (= 38 parents)	61
TOTALS	165	176 (= 352 parents)	517
	↑ (mostly mothers)	↑ (½ mothers)	

approximate number students covered by mothers = 165 + 176 = 341

approximate number students covered by fathers = 176

Table 29

Families Interviewed as of Jan. 1, 1975

SCHOOL	TOTAL FAMILIES	FAMILIES INTERVIEWED	ONE-PARENT	BOTH-PARENTS	TOTAL STUDENTS	STUDENTS COVERED	5th	6th	7th	8th	PERCENT FAMILIES COVERED	PERCENT STUDENTS COVERED
5	81	41	13	28	83	42	0	10	8	24	51%	51%
4	86	33	14	19	114	44	7	8	10	19	38%	39%
3	63	49	31	18	97	76	21	14	22	19	78%	78%
1	89	32	17	15	123	53	10	12	12	19	36%	43%
2	74	20	13	7	103	32	7	6	9	10	27%	31%
8	83	34	11	23	117	52	8	11	13	20	41%	44%
6	128	33	18	15	170	42	8	12	13	9	26%	25%
TOTAL	604	242	117*	125	807	341	61	73	87	120	40%	42%

Total
Parents
Interviewed = 367

*Of these, 61 are from two-parent families but only one responded.
This leaves: 56 one-parent families responding
125 two-parent families responding
61 single-respondents from two-parent families

helpful though in determining the effects of demography on home environment and other questions.

The sample without the all girls academy has the problems inherent in a convenience sample. The schools comprised of the lowest income families had the lowest cooperation rates (See Table 29). An exception to this was one of the traditional schools that was low in cooperation even though their families' mean occupational status was relatively high. However, on the positive side, parents sent their children to the open schools because they were parochial, not because they were open. This eliminated the usual selective bias in studies such as these wherein only the liberal "open" parents send their students to the open schools to begin with.

The family interview with the parents was mostly directed in their orientations to all siblings with the possible exception of some which only concerned the oldest sibling. Thus for some of the proceeding data samples sizes will vary.

Whenever possible both parents were interviewed but father's cooperation was hard to obtain so the majority of interviews used for this analysis are with mothers. (see bottom of Table 29).

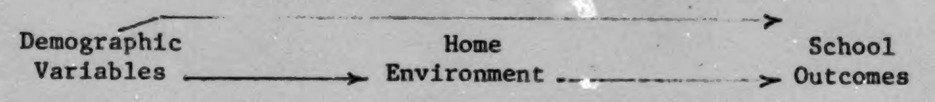
Research Model and Data Analysis Strategies

Each of the five outcomes (composite scales plus Iowa Test of Basic Skills, National Percentile) will be predicted from the set of eleven home environment variables, using a standard stepwise regression technique. For each outcome, those home environment predictors that enter at a statistically significant level will be partialed out of the outcome score. This will be done by means of residual gain analysis, and the resulting scores will be referred to as residual scores. Thus, each outcome score will be replaced by a new score from which all significant home environment predictors have been partialed out. The residual scores will then be analyzed to determine the effect of partialing out home environment on racial and school type differences. The second stage of analysis will involve demographic variables, including race, family structure, household size, mother's education, father's education, mother's occupation and father's occupation. The residualized outcome scores from the first stage will be considered as new criteria in stepwise regressions, and the seven demographic items will be predictors. Again, significant predictors (other than race) will be partialed out (from the residual scores), resulting in a final set of residual scores. These scores, then, will represent the outcomes with the effects of both home environment and demography removed. This will lead to acceptance or rejection of hypotheses H1 through H4.

Note that the two-stage process is not essential; both sets of mediating variables could be delt with at once. The procedure used, however, is more natural, as shown in Figure 3 below.

Figure 3

Casual Relationships Among Demography, Home Environment and Composite Outcomes



1. Race
2. Family structure
3. Household size
4. Mother's education
5. Father's education
6. Mother's occupation
7. Father's occupation

1. Affectionate climate
2. Reward structure
3. Authoritarianism
   Parents' value on achievement for children (8 dimensions)
   (11 variables in all)

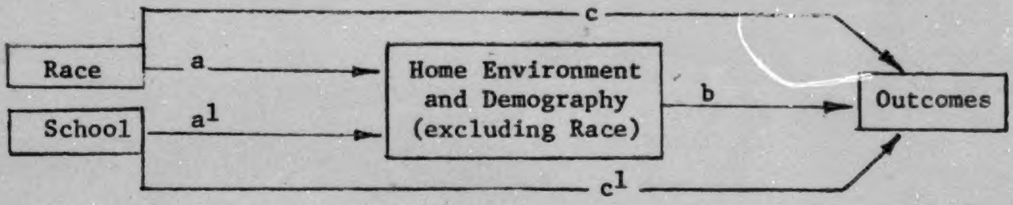
1. National percentile standardized academic tests
2. Composite Scales
   1. General SE
   2. Sch. related SE
   3. Att. toward sch.
   4. Personal auton.

Demography is considered causally primary, affecting both home environment and outcome scores. Home environment is intermediate, affecting outcome scores, and being affected by demography (causality is not, of course, unidirectional; outcomes, for instance, have some effect on home environment, but these data do not allow for consideration of this complication.) The first stage of the procedure accounts for link b in Figure 4. Link a is to be thought of as that part of the demographic set that influences the outcomes through home environment. Link c, then, is the effect that demography has independent of home environment, and this is accoumted for in the second stage of the procedure.

The overall research strategy is depicted in Figure 4

Figure 4

Overall Research Model



This figure represents the total effect of home environment and demography (excluding Race) on the outcomes. Links a and a^1 are those racial and school effects that operate through home environment and demography. Links c and c^1 are the remaining racial and school effects that are independent of mediating variables. (More precisely, they are independent of those mediating variables that are used in this study). It is links c and c^1 to which the research hypotheses are applied.

Data Analysis

Replication of Previous Findings on Smaller Parent Interview Data. Due to the problems of sample imbalance and reduced sample size, one-way analysis of variance will be used. Comparisons of the large and smaller parent sample are summarized in the following Table 30 for race and school type. Scores are for those students whose parents are in the parent sample.

Table 30 confirms the original findings (A1 through A4) for the smaller parent samples, allowing the parent data to be brought to bear on the issues presented from the main student sample.

The Effect of Selected Home Environment Measures on School Outcomes. Stepwise regressions, predicting each of the composite outcomes from the set of eleven home environment variables, are summarized in Table 31. Since at this point concern focuses on which predictors significantly effect the outcomes, correlations are not included in the Table.

Neither "Affectionate Climate", "Reward Structure" or "Authority in the Home" had a discernable effect on the 5 outcomes. Parents' attitudes toward achievement in childrearing produced significant effects on academic achievement scores. Kahl's achievement motivation instrument is very broad, containing as it does 8 dimensions ranging from integration with relatives to a stress on planning for the future. For the outcome academic achievement, the important predictors were (1) stress on occupational achievement, (2) general accomplishment and (3) a tendency for parents to be cautious in placing trust in others. For General Self-Esteem and School Self-Esteem there were no predictors out of the eleven home variables chosen here. One dimension of the achievement motivation scale significantly predicted School

Table 30

Composite Outcomes: Differences Between Large* and Parent Samples Outcomes

	Samples			
	For Race		For School Type	
	Large*	Small	Large*	Small
Acad. Achiev.	.001 Wht hi	.001 Wht hi	.01 Trad hi	.001 Trad hi
General SE	.10 Blk hi	.10 Blk hi	.001 Opn hi	.05 Opn hi
School SE	.01 Blk hi	.10 Blk hi	.001 Opn hi	.05 Opn hi
School Att.	.01 Blk hi	.001 Blk hi	.001 Opn hi	.001 Opn hi
Autonomy	NS	NS	NS	NS

*Large here refers to the main sample of students used in previous analysis chapters. Small refers to family interview sample.

Table 31

Summary of Stepwise Regressions Relating Eleven Home Environment Variables to Outcomes

Outcome	Step	Home Environment Predictor	Signif Level
Acad. Ach. Iowa Basic Skills,Nat Pc.	1	Ach.Motiv. 7 Hi Stress on Accomplishm't	$p \leq .001$
	2	Ach.Motiv. 1 Hi Stress on Occup Success	$p \leq .05$
	3	Ach.Motiv. 3 Prnt's Distrust in Others	$p \leq .05$
General Self-Esteem	(no significant predictors)		
School Self-Esteem	(no significant predictors)		
School Attitude	1	Ach.Motiv. 8 Child Should not trust Others	$p \leq .01$
Personal Autonomy	1	Ach.Motiv. 1...Occupational Success	$p \leq .05$

Attitude and that was parental belief that children should not put much trust in others. One may think this is because generally competitive and ambitious, "inner directed" children do well on academic tests, and for this reason like school more. It is questionable in the first place whether they would like open schools more, but for whatever reasons, this interpretation is not confirmed by the large sample correlations between school attitude and academic achievement which is only .21. Finally a heavy stress on occupational success as a standard for judging the self and others, shows a small relation to the personal autonomy composite score. Any interpretations in regard to the latter however, must be made tentatively because of this scale's questionable validity.

It is encouraging to note that the home environment measures are strongest for academic achievement and school attitude which are in turn are most different for Blacks and Whites. This means that the home environment measures are most probably capturing known differences in socialization that exist between these racial groups. General and School Related Self-Esteem would no doubt have been related to parents' self-esteem as other research indicates, but the pretest on family interviews proved parents most reluctant to complete these instruments.

The next step is to take the home environment predictors uncovered by Table 31 and extract them from their respective composite outcome scores. We will then be able to see if any race and school differences remain. This will enable us to answer whether the original race and school differences in Table 30 are really just because of home environment. Thus Table 32 presents the result of partialing out home environment from the residualized outcomes generated previously by Table 31. "Positive" findings would accrue

Table 32

Residualized Race and School Differences on Outcome Scores with Home Envirnoment Partialed Out

Outcomes	Race and School Differences with home Effects Removed	
	Race	School
Acad. Achievement	.001 Wht hi	.001 Trad hi
General Self-Esteem	.10 Blk hi	.05 Opn ni
School Self-Esteem	.10 Blk hi	.05 Opn hi
School Attitude	.01 Blk hi	.001 Opn hi
Personal Autonomy	NS	NS

from a "washing-out" of racial and school differences in "achievement" along with a maintenance of school differences in self-esteem and school attitude. But such is not the case. As seen in Table 32, the only change is a minor one in School Attitude. "Emphasizing caution in trusting others" (Ach. Mot. dimension 8) when extracted from School Attitude pulls the significance of the original racial difference down from .001 to .01. School differences are indeed maintained across the board. Since there were no home environment predictors disclosed for General Self-Esteem and School Self-Esteem, these were not amenable to changes. The important "negative" finding is that home environment has not minimized any of the racial differences on academic achievement. This does not of course mean that home factors don't generally explain school academic success, but rather none of these eleven variables do so. There is of course the probability that the demographic variables will explain race differences in achievement (and/or school attitude) and some of these are certainly connected to one's home evnironment (e.g. family size). The next section then will focus on these demographic factors.

The Effect of Selected Demographic Variables on School Outcomes

Preliminary Analysis of Linkages Between Demographic and Home Factors. The research model presented on page 176 presents two ways in which outcomes can be effected by demographic variables: through mediation by the home environment and/or directly, independent of the home. What follows is an analysis exploring whether the separate linkages portrayed in the model do actually exist. To confirm link "b" (see p. 177) multiple regressions are presented predicting each of the eleven home environment scales from the demographic items. The results are shown in Table 33. Nine of the eleven home environment scales are significantly related to the set of demographic items. The demographic items include race, one or two parent home, household size, mother and father's education and occupation.

Previously in Table 31, four home environment scales were significantly related to one or more of the composite outcomes. In Table 33, these same home scales are all correlated with the demographic items at .39 or higher. Thus, the paths connecting race and school with home and demography are strong as well as the paths relating home and demography with outcomes. In short, links a and a^1 and b in the research model are fairly strong.

Table 34 below is presented to establish the direct link with demography and the composite outcomes. Academic achievement is highly related to demographic factors with three variables entering in at significant levels: father's occupation, race and household size. School attitude and autonomy are somewhat related to demography with one significant predictor apiece. So far, there have been no predictors for self-esteem from our pool of home and demographic variables.

The Effect of Demography, Last Stage of Analysis. In previous sections effects of home environment were extracted from the 5 outcome composite measures. The resulting variance (residualized scores) was then subjected to an analysis to see how much of this was explained by race and school. While home effects (Ach. Mot.) were related to academic achievement (as well as school attitude and autonomy very minimally), race differences also remained in this part of the analysis.

Table 33

Significance of Multiple Regressions Predicting Effect of Each Home Environment Factor from the Seven Demographic Items

	Eleven Home Environment Factors	Multiple Regression "R"	Significance Level
1.	HE1 Affectionate Climate	.13	NS
2.	HE2 Reward Structure	.35	.05
3.	HE3 Authority in home	.35	.05
4.	AM1 Hi stress on Occupational success	.52	.001
5.	AM2 Mastery over Envir. (effort pays)	.35	.05
6.	AM3 Parents' Distrust of Others	.39	.01
7.	AM4 Parents' Activism (Planning and Effort Pays Off)*	.35	.05
8.	AM5 Integration with Relatives	.22	NS
9.	AM6 Parents' tendency to minimize Childs belief in Effort	.39	.01
10.	AM7 Hi Stress on Accomplishment	.52	.001
11.	AM8 Parents' feelings that Child should not trust Others	.49	.001

*Scored negatively-high score means planning does not pay off 6, 7, and 8 are also negatively i.e. a high score means the "undesirable" direction.

Table 34

Stepwise Regression: Effects of Seven Demographic Variables on 5 Composite Outcomes

Outcome	Step	Demographic Predictor	Significance Level
1. Academic Achievement	1	F/Occup.	.001
	2	Race	.001
	3	Household size	.05
2. General Self-Esteem	(no significant predictors)		
3. School related Self-Esteem	(no significant predictors)		
4. School Attitude	1	Race	.05
5. Personal Autonomy	1	F/Occup.	.05

The residualized outcomes scores are used below as criteria in a stepwise analysis with the seven demographic items used as predictors. The results of these analyses are summarized below in Table 35.

The effect of race on School Self-Esteem is apparently transmitted through Ach. Mot. 8 (Parent's feelings that children should not trust others). This is deducible from the fact that race made a significant contribution to the original School Self-Esteem score, but not with the residual scores above. Father's education has a significant but small effect on autonomy along with father's occupation as concluded in the previous analysis. Academic achievement is affected by father's occupation and race. Household size entered in at a .10 level of significance but since it is lower than .05, it is not included in the Table above.

The next step involved partialing father's occupation (but not race) from academic achievement and father's education from personal autonomy. The resulting doubly-residualized outcome scores are tested for racial and school type differences. Racial differences are shown in Table 36 which presents a key finding, namely that racial differences on academic achievement are actually due mostly to father's occupation. No change has occured with the affective measures since racial differences here are about the same as in Table 32.

The final step of this analysis presents school type differences on the final residualized scores. Here again the difference in academic achievement has disappeared between open and traditional schools. This is another major finding. While these open schools hold their own on academic achievement with the traditional schools, they are consistently superior in school

Table 35

The Effect of Demography on Residualized Outcomes

	Outcomes	Step	Predictor	Significance Level
1.	Academic Achievement	1	Occup Father	$\leq .01$
		2	Race	$\leq .05$
2.	General Self-Esteem	(no significant predictors)		
3.	School Self-Esteem	(no significant predictors)		
4.	School Attitude	(no significant predictors)		
5.	Autonomy	1	Educ Father	$\leq .05$

Table 36

Racial Differences on Outcome Scores with Home Environment and Demography Partialed Out

Outcome	Racial Differences
Academic Achievement	No significant differences
General Self-Esteem	Black hi p $\leq$ .10
School Self-Esteem	Black hi p $\leq$ .10
Attitude Toward School	Black hi p $\leq$ .01
Personal Autonomy	No significant differences

Table 37

School Type Differences on Outcome Scores with Home and Demographic Factors Partialed Out

Outcome	School Differences
Academic Achievement	No significant difference
General Self-Esteem	Open hi $p \leq .05$
School Self-Esteem	Open hi $p \leq .05$
Attitude Toward School	Open hi $p \leq .001$
Personal Autonomy	No significant difference

effects on self-esteem and school attitude (see Table 37). In Table 36 racial differences on self-esteem and school attitude may reflect a sample bias, i.e. what appears to be a racial difference may be the school type differences in disguise.

Summary and Conclusions

To summarize these findings conclusions will be drawn in regard to the hypotheses presented in the first section of this chapter.

1. Children in these traditional and open schools achieve at about the same level on the Iowa Test of Basic Skills (academic achievement).
2. Black and White children achieve at about the same level on the academic achievement test after father's occupation and parent's achievement orientation are controled.
3. Open school children are higher than traditional school students on general and school related self-esteem.
4. Racial differences on affective measures still remain, but it is probable in this case that they represent a bias on the sample rather than actual school type differences.

Thus, of the four hypotheses presented in the beginning of this chapter, three were confirmed and a fourth is still open to question.

The only home environment instrument that predicted composite outcomes was the Kohl Achievement Motivation Scale. No home factors derived from the family interview effected general or school related self-esteem. This does not mean that child rearing practices did not effect these outcomes; the most plausible interpretation would be that our operational definitions of reward structure, affectionate climate, authority in the home, etc. were either not valid instruments or either not relevant to the generation of self-esteem in these families. Parent's self-esteem for example, would be an important predictor of children's self-esteem, but the pilot study parents had such a negative reaction to taking the instrument that it could not be included in the main family study.

While we can not achieve a clear picture of what produces self-esteem in the family, these data are fortunately sufficient for other goals crucial to this study. When certain home and demographic factors are held constant for school types and between races, some important differences in academic achievement disappear. This means that home rather than the schools are responsible for racial and school differences in academic achievement. Since open schools originally had lower achievement scores, this finding vindicates the open schools in regard to academic achievement. The most important factors here are occupation of the father and three dimensions of the parents orientation to achievement, namely a high stress on accomplishment, a similar stress on occupational success and the parents hesitancy to trust others.

Achievement motivation is mediated in its effect on academic skills by father's occupation and race, and to a lesser extent, household size. At the same time differences in race on academic achievement are explained by parent's beliefs about achievement motivation, father's occupation and household size. These factors were also sufficient to "explain away" race and school type differences in personal autonomy, but the "race" differences in school attitude remain unexplained. Finally, differences in general self-esteem and school related self-esteem still remain as does attitude toward school. The most plausible interpretation, especially in regard to the last two outcomes, is that the major proportion of these differences derive from the different school programs and organization. (For further evidence of school differences in self-esteem see Chapter V.

CHAPTER X

GAIN SCORE ANALYSIS OF OUTCOMES BETWEEN SCHOOL TYPES

Gain Scores and Academic Achievement

Even though race differences in academic achievement were explained away in the previous chapter, the fact still remains that a disproportionate number of black children exist in these open schools whose parents have low paying occupations, do not stress social achievement and who manage large households. These are factors that, taken together, are associated in this study with poor academic achievement scores. The fact that race was "washed out" means that white children from such homes have an equally strong tendency toward lower grades too. None of this, however changes the fact that the black children in this study are most frequently exposed to home conditions fitting the trichotomy above and that the open schools are disproportionately populated with black students.

Given the situation described above, one other finding should be added to the "hopper". The tendency for children who start off poorly in school--which very frequently means poor inner-city black children--is a downward spiral with grades getting progressively worse on standardized academic achievement tests.

In the context of the above then, it is important to determine whether the black children in open schools decline, advance, or remain stable on academic achievement during the time span of the study. Secondly, it is important to determine how these open schools compare to the traditional ones in this regard.

To find answers to these questions a gain score analysis was used.

Gain scores indicate the degree to which a subject increased or decreased more than was average for the entire sample on the first academic achievement score. Thus the data that follow contain three steps: the year 1 year 2 raw scores, the change that occurred over the interim (or mean differentials), and the above mentioned "gain" scores.

From Tables 38 and 39 it can be seen that there were no significant differences between the gain scores for school types, race or sex. Thus it can be concluded that in comparison with each other, both school types effect gain scores on academic achievement similarly. This also holds true regardless of race or sex of the student. While these open schools do better than traditional schools on school attitudes and self-esteem they do not harm the children in academic achievement either.

Gains from Affective Measures

In contrast to the gain scores from academic achievement, the affective outcomes did generate some significant differences in gains. The important outcomes are as follows:

1. Marolla's Personal Competency (School Type difference, Female & age)
2. Self Reliance from Teacher (Different within all 7 schools)
3. Dillon Alienation (Different within all 7 schools)
4. Learner's Self Concept (Waitjen-Liddle: Different within all 7 schools)
5. School Attitude--Teacher Attitude (Different within all 7 schools)
6. Perception of School Openness (not an affective measure: between school type differences and within all 7 schools)

Table 40 indicates the net gains and losses for each school from spring

Table 38

Descriptive Statistics from Two Way ANOVA of Gain Scores: Schools, Race & Sex

	n	x	sd	F(.05)
SCHOOLS				
Open	247	-.34	9.61	
Trad.	148	.57	11.45	.70 NS
FEMALES				
Open	135	-.43	8.68	
Trad.	64	1.70	10.22	2.30 NS
MALES				
Open	112	-.23	10.62	
Trad.	84	-.29	12.24	.01 NS
BLACKS				
Open	207	-.75	9.26	
Trad.	39	.50	10.56	.57 NS
WHITES				
Open	37	2.07	11.19	
Trad.	104	.60	11.91	.43 NS

Table 39

One Way Analysis of Variance Gain Scores, Spring 1974
Spring 1975: School Type, Sex and Race

Source	Sum of Squares	Degrees of Freedom	Mean Squared	F
		School Type		
School Type	75.91	1	75.91	
Error	42213.62	393	107.41	
Total	42289.53	394	107.33	0.707
		Females		
Female	196.68	1	196.68	
Error	16864.35	197	85.61	
Total	17061.03	198	86.17	2.297
		Males		
Males	0.21	1	0.21	
Error	25202.65	194	129.91	
Total	25202.86	195	129.25	0.002
		Blacks		
Blacks	51.49	1	51.49	
Error	22114.61	244	90.63	
Total	22166.10	245	90.47	.568
		Whites		
Whites	59.53	1	59.53	
Error	19373.46	139	139.38	
Total	19432.99	140	138.81	.427

Table 40

ANOVA Summary
Gain Scores: Significant School Effects on 10 Variables
(Elementary Sample, Year 1-2, raw scores)
N = 470

	Between Open & Trad.		Among All 7 Schools		By Race		By Sex		By Grade	
	F	P	F	P	F	P	F	P	F	P
SOCDES			2.01	.10						
*NSCONT	7.71	.10(0)			9.81	.01(B)				
JGSD/P			2.42	.05						
JOCOMP	4.27	.05(0)					4.76	.05(F)	1.83	.10(7)
ATS	3.82	.10(0)					3.27	.10(F)		
ATT	3.63	.10(0)	4.56	.001						
GWSR			3.19	.01					4.19	.05(7)
DILAL			2.60	.05						
LSC			2.02	.10						
MCPOP	75.36	.001(0)	16.28	.001	19.35	.001(B)			4.85	.01(7)

*Low scores desirable, hence negative gain desirable.
Partial Sample only on NSCONT & JGSD/P: younger students only.
Parentheses indicate which group was higher.
Only significances ≤ .10 are reported here.

of 1974 to the spring of 1975. Note these data are not controlied for race and sex. Lanetto Academy (mostly white female, upper middle class) showed the strongest gains on self concept as a learner, Self Reliance from the Teacher and School-Teacher Attitude measures. On the other hand the least open of the "innovative schools" (predominantly black, low income) showed the least gains. The two traditional schools generally decreased in school attitudes and self-conceptions. St. Terrance and St. Laude, solidly open schools, showed scattered gains. It will be remembered that students from Sacred Heart Georgetown had enjoyed a great deal of freedom in the last three years and then merged with a more structured school--St. Laude to form St. Margaret. The students from Sacred Heart decreased on school attitude though they increased on self concept, a finding that is congruent at least, with the historical events at the time. In the same view, school #3 (St. Terrance) was considered more open this year by the research observers as staff stabilized into a more cohesive group. This was reflected in the gain scores generated by the student's perception of openness. The most important of these findings is that desired differences as a whole coincide with school openness while gains (negative or positive) in the student's perception of openness parallel known changes in the school. This is additional evidence that the schools are producing results even considering the racial imbalance in the schools.

CHAPTER XI

COOPERATIVE SKILLS AND SOCIAL SENSITIVITY IN OPEN AND TRADITIONAL SCHOOLS

The Significance of Social Sensitivity as a Measure of Student Outcome.

Social sensitivity as used here does not refer to how easily one is hurt by other persons' negative responses, but rather in a technical sense that has emerged in the social science literature under the label of role-taking. Role-taking refers to the process by which one momentarily puts himself in the other's place in order to gain insight into alter's reactions to a given situation. In the common vernacular this ability is often referred to as "empathy", but the technical usage expressed by the term role-taking emphasizes the cognitive aspect of the process of "decentering" instead of the affective connotation packed into the term empathy. Actually, both dimensions are present in the process. Social psychologists have argued that role-taking is at a premium in cooparative peer group processes where one needs to have some idea of what alter is going to do in order to mesh his own ongoing behavior with that of the others. Concerted actions of any sort are premised on peoples' ability to predict generally how others will respond to their social actions. (Shibutani, 1961) Socialized persons by definition learn to monitor their behavior by self consciously anticipating others reactions to what they are considering doing or saying. Role-taking skills are essential to effective social functioning and the generation of self-esteem (White, 1965).

From the humanistic viewpoint such skill is of obvious benefit since it facilitates a way of interacting with others that takes their feelings into account and is especially helpful in dealing with interpersonal matters characterized by potential conflict.

From a developmental viewpoint, role-taking skills are a prerequisite for social and communicative maturity. According to Piaget, the child is largely a prisoner of his own restricted point of view. This limits the ability to develop perceptual and cognitive discriminations, as well as comprehension and use of language. For example, a reliance on an egocentric posture, prevents the child from assessing how his communications will be understood by a person in a role different from his. This knowledge is necessary in order to adapt one's message to the listener's needs and perceptions. In this sense role-taking is critical to efficacious social skills and controlling other person's responses to the actor.

Cooperative group skills are largely dependent on a particular derivative of role-taking. Whereas at first, the child learns to take the role of particular "significant others" and guides his behaviors and communications accordingly, the next stage is more impersonal. It involves seeing his particular role from the point of view of an abstract social enterprise or cooperative objective. In most cooperative endeavors this involves fitting one's own actions into a whole unitary organization of numerous roles. In such situations the child has to (1) take the role of others in a situation and (2) organize these roles into an integrated whole (3) viewing his own behavior from the standpoint of the organized whole and regulating it accordingly. Bruner (1968:125-127) has noted the importance of this for the goals of innovative education. George Herbert Mead (1934) referred to this advance process as taking the role of the "generalized other".

Finally, role-taking involving a sensitivity to how things look from multiple perspectives has been associated with the development of moral judgments as well as objectivity in general. (See Lindesmith and Strauss, 1968, for a brief, if dated, summary of research literature on this point.)

Johnson (1974) has presented tentative evidence with a small sample that predispositions to behave in a cooperative manner are associated with ability to take the social perspective of peers. But according to this writer's knowledge, no work has been done relating open schools to measurable cooperative group actions leading to increased role-taking abilities and skills on group tasks. In a decisive study, all 4 of these variables would have to be measured and anticedent variables controlled in a factorial type design.

In this study, it was not possible to meet these requirements. While all observers and consultants feel that these open schools exhibit a higher degree of learning in, and through, a cooperative context, this was not actually measured with sufficient inter-rater reliability to be useful. Thus the analysis must rest at between-school type differences and can not explore possibile increases in cooperative skills as experience in cooperative learning increases within open schools. Without such an approach it is hard to determine what it is about open schools that produces "cooperative skills" even if we do find open and traditional differences. Also this analysis must be seen as preliminary since rigid controls are lacking for variables possibly related to outcomes like sex, race and I.Q.

Indicant of Role-Taking and Group Cooperation

A task necessitating cooperation with others and the ability to gestalt the whole organization of roles as dictated by the goals of the endeavor, served as an indirect measure of role-taking ability on the level of "the generalized others". Children were left to figure out what was demanded by the task on their own without help from each other or adults, and to depict their specialized part in the whole task enterprize. There was no direct measure of role-taking ability, it is simply assumed that success at a task of this sort necessitates role-taking skills at this level.

Three samples of 5 children were randomly selected from each school (6th to 8th graders). That made a total of 15 children from each school totaling 105 students. Though randomization is usually a form of controlling for unequivalent samples and thus eliminating the effects of "external variables", this goal is only partially met here. For example some schools were nearly all black and one school had uniformly low achievement scores (Benedictine). These factors, at least, could not be randomly destributed within the schools by the technique of random sampling. Finally scores are not calculated for each individual but for the groups.

The task is in form of a game referred to as "Broken Squares". The purpose is to measure certain aspects of cooperation as an indicant of group competence. The task requires five participants in a group. Each participant receives one envelope in which there are pieces of wood. The pieces in the envelope do not form a square. The game is complete when the pieces are redistributed so that each member has a square in front of him/her. If after 15 minutes they had not completed the task, the game was ended. Specific limitations are imposed on the group. They include:

1. No member may speak, point or use any other form of communication.
2. No member may ask another member for a piece of wood or in any way signal that another person is to give him or her a piece of wood.
3. Members may, however, give pieces to other members.
4. Members may not throw their pieces into the center for others to take; you have to give the pieces directly to one individual.
5. Members may give some or all pieces of wood to other members, even if a square has already been formed.

One group out of 21 groups completed the task. However, the task was conducive to observing various aspects of cooperation between students.

There are many possible combinations to form squares. However, if, using all fifteen pieces, five squares must be constructed, there is only one arrangement that can succeed. Because of the possibility of "bad" squares being formed (a "bad" square is perfect in itself, but makes a total of five squares impossible), success depends on individuals breaking up squares and giving good squares away. The ease with which this occurs depends on the willingness of the group members to engage in reciprocity, i.e. to place the group before himself or herself. In order to tap this dimension the number of squares given away and the number of squares broken up were recorded.

Interaction rate was measured by recording the number of pieces given during five-minute intervals. The number of squares made during the game by the group and the number of squares the group had formed by the end of the games were recorded. The number of individuals who withdrew from the game before the task was completed was observed. Withdrawal was operationalized as exhibiting behavior which indiated the individual was ignoring the group dynamics. Finally, rule infractions occurring during the game were recorded.

Findings

Two ways of scoring groups performances and studying differences are represented in Tables 41 and 42. Table 41 focuses on the average number of individuals in each school who exhibited the behaviors listed above. Table 42 focuses on activities rather than individuals, for example average number of squares given away, average number of pieces given in the first 5 minutes, etc. From these two tables it is concluded that children and groups in open schools did, in general, display more frequent signs of cooperative behavior.

In terms of taking the role of the generalized other (or "reciprocity" as Jerome Bruner refers to it (1966:125) Table 41 indicates that open school children do better than traditional children. The average number of children who ruined their own square by giving a square to someone else, and thus allowing a better group performance, is calculated in item 5 of this table. Generally more pieces were given away by open school children (items 1-2). In the following Table 42, the number of squares broken up per group (analogous to item 5 above) also favors the open schools. Sacred Heart Georgetown, consistently scores lower than any of the open schools perhaps reflecting a certain absence of structure not found in the other schools. (See their high rate of withdrawal in both tables as well as the high rule infractions in Table 42 item 6.)

TABLE 41

ASPECTS OF GROUP COMPETENCE DEMONSTRATED IN THE GAME "BROKEN SQUARES"

N=105 Individuals

	Schools							
	Traditional		Open					
	SHD	SA	B	SL	ST	SHG	LAN	Sig. Level*
1. Average number of pieces given per individual	8.07	6.60	13.40	14.47	28.20	13.27	17.67	.001
2. Average number of pieces given with a purpose per individual	1.00	0.20	0.80	1.27	1.13	0.20	1.67	.01
3. Average number of individuals who made a square per group	3.65	2.65	2.65	3.65	4.00	2.35	3.65	NS
*4. Average number of individuals who gave a square away per group	0.00	0.65	0.35	0.65	1.65	1.00	0.65	NS
*5. Average number of individuals who broke up a square per group	0.65	0.00	1.65	2.65	3.35	0.00	1.65	.001
6. Average number of individuals who had a square at the end of the game per group	3.35	2.65	2.65	3.65	2.00	2.35	2.35	NS
7. Average number of individuals who withdrew from the game	1.35	2.65	0.35	0.65	1.65	4.00	2.65	.001

*An analysis of variance was calculated on the difference between schools for each of the measures of group competence. The differences between school on items 3,4 and 6 did not reach statistical significance (NS). The remaining items showed significant differences

**N=15 individuals for each school.

TABLE 42

ASPECTS OF GROUP COMPETENCE DEMONSTRATED IN THE GAME "BROKEN SQUARES"

N=21 Groups

	Schools						
	Traditional		Open				
	SHD	SA	B	SL	ST	SHG	LAN
1. Average number of pieces given in first 5 min. per group	18.00	17.67	30.33	37.33	50.00	40.67	42.33
2. Average number of pieces given in second 5 min. per group	9.00	5.00	19.33	15.33	33.67	11.67	23.00
3. Average number of pieces given in third 5 min. per group	13.33	10.33	17.33	19.67	57.33	9.33	23.00
4. Average number of squares made per group	4.00	2.67	5.33	5.67	9.67	2.33	8.33
5. Average number of squares made at the end of the game per group	3.33	2.67	2.67	3.67	2.00	2.33	2.33
6. Average number of rule infractions per group	0.00	2.67	3.67	1.00	1.67	6.33	0.67
*7. Average number of squares given away per group	0.00	0.67	0.33	1.33	3.00	1.00	0.67
*8. Average number of squares broken up per group	0.67	0.00	3.33	2.33	5.33	0.00	4.67
*9. Average number of pieces given with a purpose per group	5.00	1.00	4.00	6.67	5.67	1.00	8.33
10. Average number of individuals who withdrew per group	1.33	2.67	0.33	0.67	1.67	4.00	2.67

Types of Structural Controls and Rates of Group Cooperation. In lieu of a direct measure of cooperative learning activities in each school, the schools were arranged in three types:

1. Traditional Schools - high structural control
2. Open Schools - high on freedoms - medium on structural limits
3. Open Schools - medium to high on freedoms but low on consistent limits.

1. High Structural Control--Traditional Schools
(parents 70% white; middle and upper middle class)

These children obey rules imposed upon them but did not, on their own, gestalt the overall group goal and orient their own actions by their own perception of this. They engaged in the least amount of interaction and were least willing to give up squares and break up good squares. The intrinsically given motivation to engage in interactional "reciprocity" (J. Bruner, 1966) and the ability to take the role of the generalized other (Mead, 1934) was minimally expressed by this group.

2. Medium Structural Control--Open Schools with Normative Order
(low income black; upper middle white)

These children did not follow rules as faithfully as the traditional school children, but they seemed to catch on to the essence of the game on their own, at least to a degree unmatched by any of the other structural control groups. They identified with the game as evidenced by a high interest level and the highest observed rate of interaction. They were most willing to give up squares and break up good squares. They identified with the game as evidenced by a high interest level and the highest observed rate of interaction. The implications of these findings for competence in the area of reciprocity and taking the role of the generalized other (in this type of situation at least) is that open schools with a reasonably implemented normative order are most conducive to the development of these cooperative attributes.

3. Low Structural Control--Open Schools with the Least Normative Order
(low income, mostly black)

The groups in these schools began the exercise with a high interaction rate and somewhat chaotic giving. It seems from the data that emotionality and hurt feelings soon overcame the cognitive competencies necessary for cooperative behavior resulting in a tapering off of interaction, a high number of rule infractions and finally a high rate of withdrawal from the game. Nonetheless, overall outcomes placed this group ahead of the traditional schools and behind the open schools with medium structure.

Number 3 above is particularly interesting since the similarities in the school structures seem to overcome the large differences in race and income level of the schools. While complete faith in such a finding leaves one open to the charge of making an ecological fallacy, it still must be considered "suggestive" at the least. Also the three schools with the most similar student bodies but different school structures produced very different results in the hypothesized direction. These findings greatly reduce concerns regarding a sample bias in interpreting these results.

Conclusions

Role-taking and/or cooperative skills takes on significance as an outcome variable in the context of heavy criticism of standardized achievement scores as the sole measure of cognitive growth. While affective measures are numerous, cognitive measures mostly concern a limited type of achievement. The Cooperative skills test has allowed a very different type of cognitive test. It is also distinctive in that it is measured by observed behavior rather than a self report. These findings suggest that the Freedom within limits, rather than the highly structural, or permissive approaches, not only is the best facilitation of self-esteem but perhaps cooperative skills as well. This area warrants further research such as David Johnson has produced. Definitive studies however will include precise measures of cooperative structures as well as direct, rather than implicit, measures of role-taking skills.

CHAPTER XII

SUBSTUDY OF ELEMENTARY OPEN SCHOOL STUDENTS ADJUSTMENT TO OPEN AND TRADITIONAL HIGH SCHOOLS

Introduction: Methodology

Graduates of open and traditional elementary schools were followed as they moved into high school in 1974 and 1975. This resulted in a two staged follow up study of 1973 and 1974 elementary graduates. The first stage included only one school type--an open middle school (Lanetto Academy) whose students entered the upper (high school) in the same building.

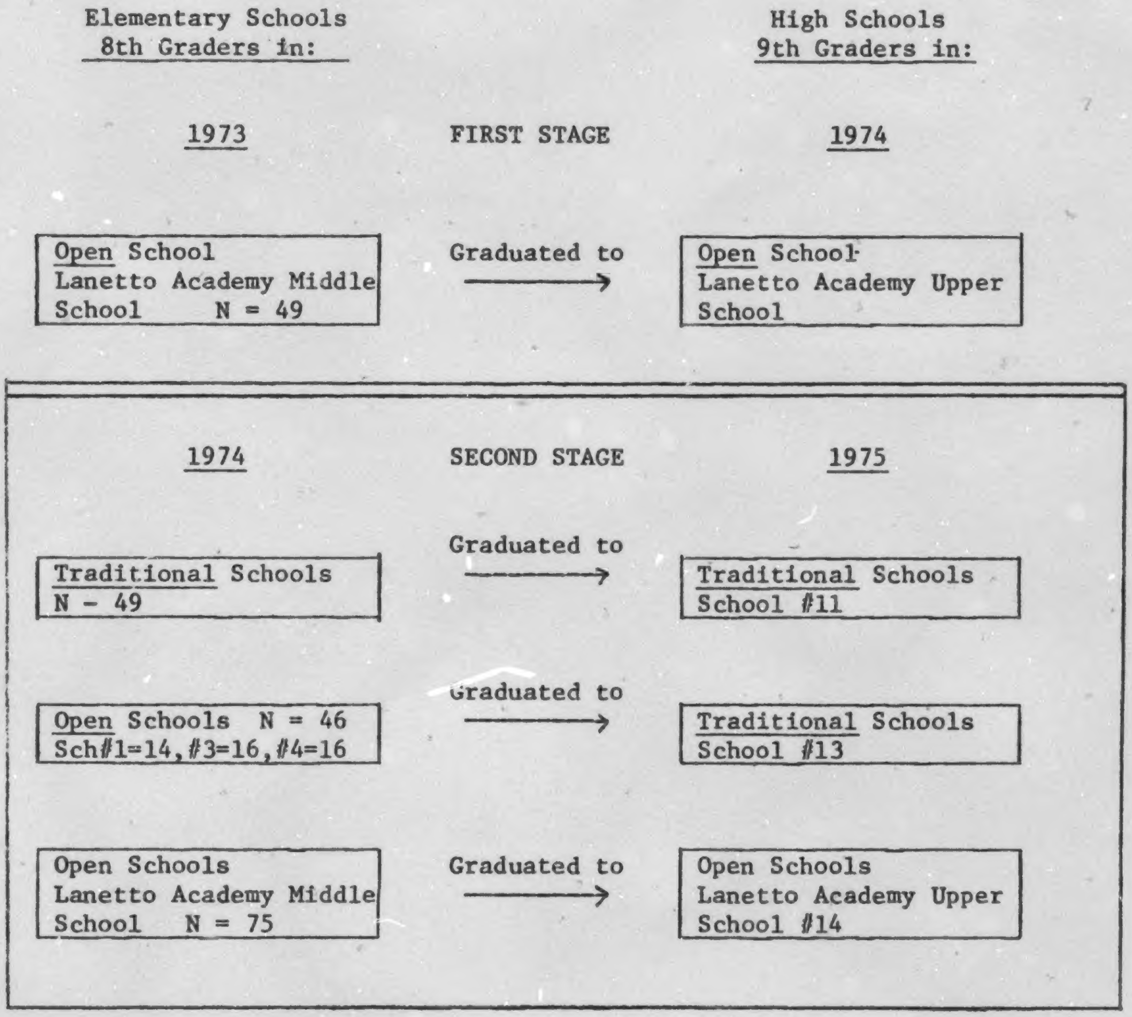
In the fall of 1974, one hundred and twenty students from the six elementary schools in the larger study enrolled in the 9th grade of 3 private high schools. These children totaled 57% of the elementary graduates in the spring of 1974. The rest were scattered in small numbers into other schools, or moved out of the metropolitan area making follow ups impractical. As described in Figure 5 in stage two, twenty-five open school children graduated to an open high school (school #14); forty-nine graduates of Sacred Heart, Dansville and St. Andrews traditional schools went into traditional high schools. These are used as comparison points in this study. The main focus is on forty-six graduates of 3 open elementary schools into one traditional high school (school #11). See Table 43 for a break down of graduates by school race and sex and Table 44 for a more complete breakdown of the sample.

Purpose of Study

The purpose of the follow up study was to determine their comparative adjustment in high school. Adjustment in high school was measured by questions

Figure 5

Types of School Children Graduated from and into; Two Stage Follow Up Study



Elementary Schools 8th Graders in:

High Schools 9th Graders in:

1973 FIRST STAGE 1974

Open School Lanetto Academy Middle School N = 49 → Graduated to → Open School Lanetto Academy Upper School

1974 SECOND STAGE 1975

Traditional Schools N - 49 → Graduated to → Traditional Schools School #11

Open Schools N = 46 Sch#1=14, #3=16, #4=16 → Graduated to → Traditional Schools School #13

Open Schools Lanetto Academy Middle School N = 75 → Graduated to → Open Schools Lanetto Academy Upper School #14

Table 43

High School Sample
Sex-Race Breakdown

High School	N	White Male	White Female	Black Male	Black Female	Other Male	Other Female
#11 from school #1	14	0	0	7	7		
#3	16	1	4	8	3		
#4	16	1	2	7	6		
#8	9	7	0	2	0		
Sub Total	(55)	(9)	(6)=15	(24)	(16) =40		
#13 from school #6	40	10	16 = 26	5	6= 26	2	1
#14 from school #5	25	0	20 = 20	0	5 = 5		
Totals	120	19	42 = 61	29	27 - 56	2	1 = 3

Table 44

High School Follow-up Sample: Winter 1975
(8th graders in 1973-74; 9th grade freshmen in 1974-75)

Elementary School	8th gr. Orig. N	High School	9th gr. N	(% of graduates)		# Female 8th	# Female 9th	# Black 8th	# Black 9th	% Fem. 8th	% Fem. 9th	% Blck. 8th	% Blck. 9th
#1 (open) *	37	↓	14	(38%)		17	7	37	14	49	50	100	100
#3 (open)	26	#11	16	(62%)	Ⓑ	9	7	18	11	35	44	69	69
#4 (open)	30	↓	16	(53%)		13	8	24	13	43	50	80	81
#8 (trad)	35	↓	9	(26%)	Ⓐ	15	0	4	2	43	0	11	22
(sub-total)	(128)	↓	(55)	(43%)		(54	22)	(83	40)				
#6 (trad)	48	#13	40	(83%)	Ⓐ	26	23	14	11	54	58	29	28
#5 (open)	35	#14 (open	25	(71%)	Ⓒ	35	25	8	5	100	100	23	20
TOTALS:	211*		120	(57%)		115	70	105	56	55	58	50	47

(High School Sample is Representative of Elementary Sex & Race Ratios, Except for Possible Biased Sample from School #8:
only 26% go to high school #11, + only males)

* Once again, school codes are as follows: 1 = Sacred Heart Georgetown, 2 = St. Benedictine, 3 = St. Laude, 4 = St. Terrance, 5 = Lanetto and 6 and 8 = the two Traditional Schools. School 11 = Traditional high school; school 13 is another traditional high school and 14 is an open high school in the same building as Lanetto, (school 5).

pertaining to the effectiveness of grade school preparation, questions relating to feelings about current adjustment to high school and various other instruments identified below.

Measures. Three scales that had been administered previously to the students involved in the main study (grades 5, 6, 7, and 8) were again given to the graduates. These scales included McPartland's Perception of School Openness Scale (to determine the relative openness of the three high school programs), the Weiss Attitude Toward School Scale, and the Waetjen-Liddle Self Concept as a Learner scale (to measure changes in attitude toward school and about self since entering high school).

Also, all students were asked seven questions targeted on their feelings about grade school preparation and present adjustment to high school. Four open-ended questions were designed to explore their reactions to grade school experiences as well as to adjustment in high school.

A fourth indication of adjustment to high school was taken from Teacher Behavior Rating scales that high school teachers answered on all graduates in the sample. These scales involved teacher estimates of students self-esteem, self-reliance, standardized academic achievement, ability, cooperation, need for approval and defensiveness (see Appendix 5, for outcomes). In the second year of the follow-up study, questionnaires were administered in January of the second semester of high school.

The measures with their abbreviations for the tables appear below:

I. Scales Given in Elementary School that were Repeated in High School

1. McPartland: Students' perception of School Openness --- McP HS
2. Traub and Wiess: Attitude Toward School ---------------- ATS HS
3. Waetjen-Liddle Self Concept as a Learner --------------- LSC HS (Learner Self Concept)

II. Seven Interview Questions For High School Freshman

1. Did grade schools prepare you for basic academic work doing now? (Basic Academic Preparation in Grade School)-- BAPRP*
2. Did grade schools prepare you in terms of learning to work on own? (Self-reliance prep.) ------------------- SRPRP
3. Did grade schools prepare you in terms of working with others? (Cooperation)------------------------------ COOPRP
4. Can you meet expectations here?------------------------- CANDO
5. Do you do work that is personally interesting to you as much as in grade school? (Interests)----------------- INTRST
6. Enjoy School as much this year as last? ---------------- ENJOY
7. Are school rules reasonable and fair? ------------------ RULES

* PRP = preparation

III. Four Open Ended Questions

1. How would you change the program you had in the 7th and 8th grades?
2. How would you change the program you have this year?
3. What are important things you got from elementary training?
4. How is school different this year from last year?

IV. Stephen Dillon's Revision of Coopersmiths Teacher Behavior Rating form for Students' Self-Esteem

1. Self-Esteem -- TSE/HS
2. Self Reliance -- TSR/HS
3. Academic Achievement -------------------------------- TAC/HS
4. Ability -- TAB/HS
5. Cooperativeness ------------------------------------ TCO/HS
6. Approval-Need --------------------------------------- TAP/HS
7. Defensiveness --------------------------------------- TDF/HS

TABLE 45

High School Follow-Up
Winter, 1975
N=120, 9th Graders[1]

Categorized Responses To Open-Ended Questions About School

							(0→0)	(0→T)	(T→T)
High School:	14(0)	11(T)	11(T)	11(T)	11(T)	13(T)	14(0)	11(T)	11,13(T)
Grade School:	5(0)	1(0)	3(0)	4(0)	8(T)	6(T)	5(0)	1,3,4(0)	8, 6(T)
N =	25	14	16	16	9	40	25	46	49
#8 How would you change the program you had in 7th & 8th grades?									
A. More structure	60%	43%	67%	50%	0%	8%	60%	53%	6%
B. More open	0%	7%	0%	0%	33%	25%	0%	2%	27%
C. Other[2]	32%	14%	0%	19%	78%	30%	32%	11%	39%
D. No change	24%	36%	33%	44%	0%	48%	24%	38%	39%
#9 How would you change the school program you have this year?									
A. More structure	0%	0%	0%	0%	0%	0%	0%	0%	0%
B. More open	16%	29%	33%	13%	22%	15%	16%	24%	16%
C. Other[2]	32%	57%	7%	32%	44%	53%	32%	31%	51%
D. No change	52%	14%	60%	56%	33%	38%	52%	44%	37%
#10 What are the important things you got out of your elementary school training?									
A. Acad. basics	24%	21%	33%	38%	44%	20%	24%	31%	24%
B. Self-Respons.	44%	43%	20%	25%	0%	35%	44%	29%	29%
C. Group skill	12%	29%	47%	44%	33%	45%	12%	40%	43%
D. Other	24%	36%	27%	31%	33%	20%	24%	31%	22%
E. Don't know	16%	0%	7%	6%	11%	15%	16%	4%	14%

TABLE 45 (continued)

#11 How is school this year different from school last year?

A. More demanding	72%	57%	67%	69%	33%	25%	72%	64%	27%
B. More oppor. & var.	8%	7%	13%	6%	11%	38%	8%	9%	33%
C. Other[3]	28%	36%	40%	44%	67%	60%	28%	40%	61%
D. Don't know	8%	7%	7%	0%	0%	0%	8%	4%	0%

(NB: In many cases the percentages total more than 100%, because students gave more than one response to the question.)

---

[1] These students atteded six of the seven schools in the study during the first year of the project, and next year they enrolled in 3 local non-public high schools. They represent 57% of the graduates (excluding students from school #2.

[2] Restrictive Rules were mentioned often by Trad. School Graduates.

[3] Larger building, more people were often mentioned.

[4] One student not responding.

Findings

Open-Ended Questions. Answers to the four open-ended questions were grouped into identifiable categories; the results are presented in Table 45. In general, a majority of open school graduates said they would have preferred a more "structured" program in grade school, while not desiring any basic change in their present high school program. Open-school graduates seem to judge the worth of their grade school program according to the academic demands placed on them in high school.

It is interesting to note that these responses follow a pattern similar to one that was abstracted from the interviews of the graduates of a year earlier. The 1973-1974 graduates who complained that they were not adequately prepared for high school studies were the comparatively low aptitude students (the stage two analysis indicates that this also holds true for the 1974-1975 graduates). The academically able students reported that their open learning experience had been well suited for the educational tasks they had to face in high school.

Some of the comments from the low aptitude students are instructive:

Query: How would you change the school program you had in the 7th and 8th grades?

> I'd let the kinds have freedom, but organized freedom--everything was so unorganized. I didn't think we learned very much (if anything); we didn't have to do the work if we didn't want to. The teachers were not strict enough.
>
> I would like a programteaching basic grammar and math.
>
> Get rid of working at your own speed. I think you need to be pushed a little.
>
> I would have more closed classes and teach a lot more grammar.
>
> Have the teacher make you do your work.

The majority of traditional grade-school graduates--regardless of ability did not see a need for any basic change in the grade-school program though there was a tendency toward desiring a more open type curriculum.

Typical responses from traditional graduates to the same question were:

> I would like to be able to run around a lot more and get to do what you want, but not always.
>
> I would have a recess every hour and have 20 minute classes.
>
> I would like to have added more fine arts education.

If more "substantive" issues in learning are taken as an indicant of the quality of response, the remarks of open-school graduates are on a higher level than those of traditional school graduates. The open-school graduates were more concerned about classroom organization, opportunities inherent in the curriculum, self-motivation, responsibility, and group cooperative skills than the latter. Traditional-school graduates were caught up in issues concerning restrictive rules of behavior, size of buildings, and lunch programs. Illustrative of the more substantive tendency in open-school graduates are these comments:

Query: What do you think are the important things you got out of your elementary school training?

> To work on my own.
>
> How to use my freedom.
>
> To work independently.
>
> I learned to take some of the responsibility for my own education and work more through research than through a textbook.
>
> How to be responsible. How to be more mature.
>
> Learning to work with others when they need help or you need help.

Self-Report Adjustment Responses and Perception of School

Figure 46 depicts that the traditional-traditional group felt best prepared in school in the matter of cognitive skills (also the students from open school #4 St. Terrance). Also, this figure graphically relates that open-open students in this sample felt most able to enjoy school, follow their own interests and find school rules reasonable and fair. This may be expected considering these students graduated from the middle school at Lanetto Academy (the most open school) to the upper school in the same building.

Figure 47 lends empirical support to the observation by observers that school #14 has an open high school program, whereas schools #11 and #13 tend to be traditional. This scale, the McPartland Perception of School Openness, measures the students' "subjective" perception of the "objective" school program.

Report of Teachers on Students' Adjustment

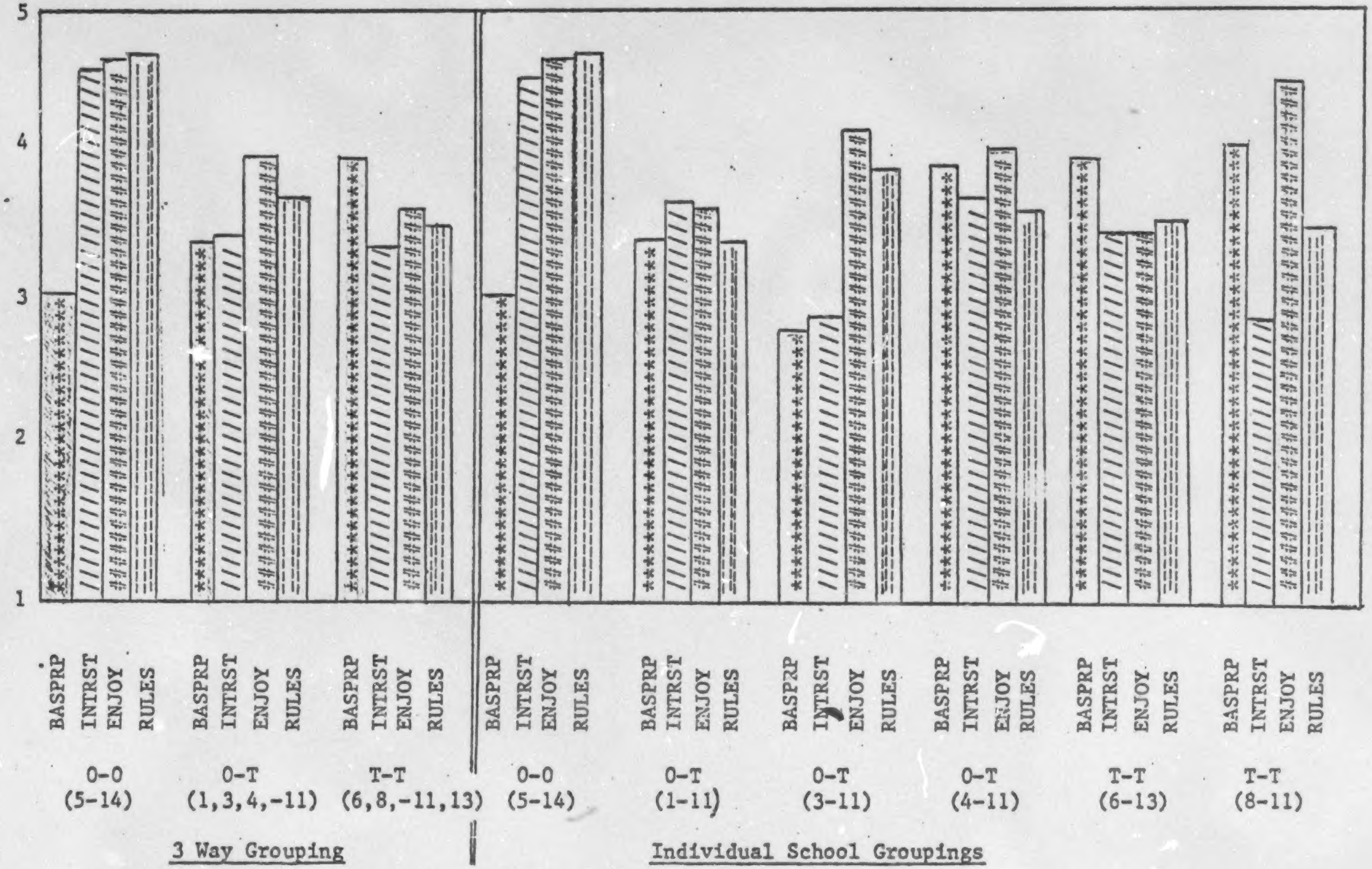
Figure 48 presents a comparative picture of the teachers' report on adjustment of students in the three high schools. The open-traditional students were rated as lowest on ability and self-esteem. The open-open students were consistently rated high by their teachers. There is a very real chance that the Teacher ratings tell more about the teachers in some instances than the children, but this issue can not be resolved without more data.

Adjustment Outcomes as Seen in Self and Teacher Reports

Seven "adjustment" questions, three school-related attitude measures, and seven teacher rating factors were analyzed for differences among the

TABLE 46

High School Follow-Up Variables*
Questions about Grade School and High School
(only variables with $p \leq .05$ are reported)
120 9th Graders, Year 2
See page for Codes below tables

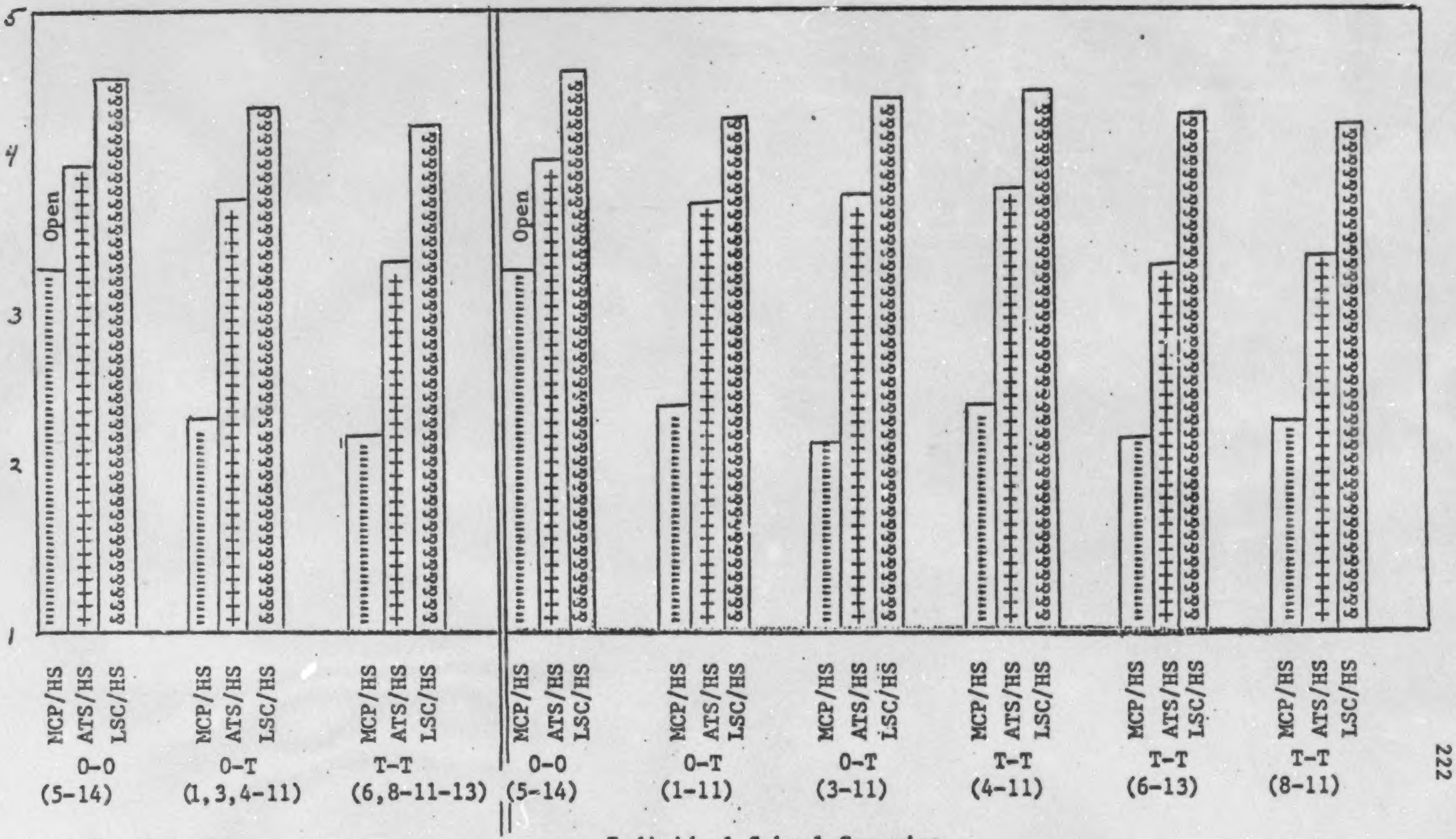


(*Scores Given in Original Raw Form: Possible Range Of 1-5, High Being Desirable)

TABLE 47

High School Follow-Up Variable*
Outcome Scales Regarding High School
(only variables with $p \leq .05$ are reported)
120 9th Graders, Year 2

MCP = McPartland Student Perception of Openness
ATS = Attitude Toward School
LSC = Waetgen-Liddle Learner's Self Concept

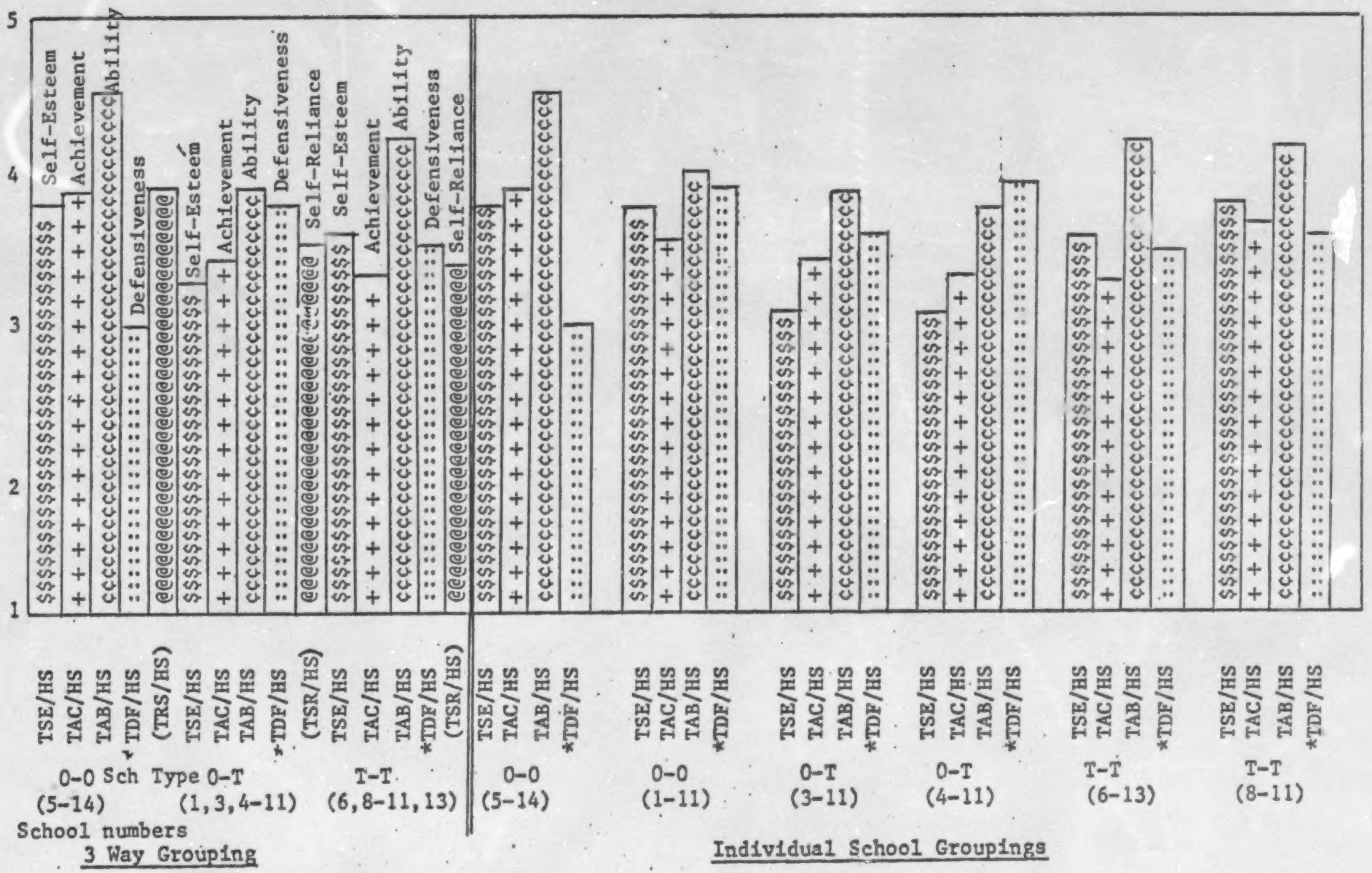


3 Way Grouping
Individual School Grouping

(* Scores Converted To Common Possible Range Of 1-5, High Being Desirable)

TABLE 48

High School Follow-Up Variables*
Teacher Behavior Rating Factors
(Only Variables with $p \leq .05$ are reported)
120 9th Graders, Year 2



(*Scores Converted to Common Possible Range of 1-5, High Being Desirable)
I.E. High on TDF=Least Defensive

three groups of graduates. The codes used for the 17 variables were explained on page 215, and the correlations of the variables are presented in Table 49. While the higher correlations are listed below the table the low correlations are also of interest. For example CANDO (are you able to meet the teachers' expectations here and do the type of work required by the school?) correlates only .12 with the Teachers rating of the individual students' ability (TAB/HS)! On the other hand the learners' self concept correlates relatively highly with 5 of the Teacher rating form items. So here there is congruence between students and teachers. Perhaps CANDO is too sensative a question for the interview situation.

Table 50 shows the results of two different one-way analyses of variance for all of the graduate self-reports and teachers' behavior ratings. First, the graduates are grouped into three major divisions: open-grade school to open-high school, open-grade school to traditional-high school, and traditional-grade school to traditional-high school. Secondly, graduates are compared according to their original grade schools.

In terms of the 3 major types of graduates (0 → 0, 0 → T and T → T) four interview items are highly significant:

1. Adequate Basic Academic Preparation? (.01)
2. Do you do work personally interesting to you? (.001)
3. Do you enjoy school as well as last year? (.01)
4. Are rules fair? (.001)

For item 1 the T → T group was highest while the 0 → 0 group was also highest for the scales previously given:

1. McPartland openness (.001)
2. Attitude toward School (.001)

Table 49

INTER-CORRELATIONS OF HIGH SCHOOL FOLLOW-UP VARIABLES

(N= 120, Winter 1975, Raw Scores)

	Seven Interview Items							Previously Given Scales			Dillons Teacher Behavior Rating of Student: SE						
	BASPRP	SRPRP	COOPRP	CANDO	INTRST	ENJOY	RULES	MCP/HS	ATS/HS	LSC/HS	TSE/HS	TSR/HS	TAC/HS	TAB/HS	TCO/HS	TAP/HS	TDF/HS
								Openness	Att Toward Sch	Learner's Self-Con	Self-Esteem	Self Reliance	Achievement	Ability	Cooperativeness	Approval Need	Defensiveness
BASPRP																	
SRPRP	46																
COOPRP	26	40															
CANDO	18	17	15														
INTRST	18	08	05	14													
ENJOY	05	-07	-10	24	29												
RULES	-12	-04	01	14	25	43											
MCP/HS	-11	-13	02	14	34	25	33										
ATS/HS	-00	13	14	25	30	40	41	23									
LSC/HS	-05	19	-01	21	25	11	17	28	37								
TSE/HS	09	11	05	07	23	-05	05	23	14	40							
TSR/HS	05	14	08	17	24	07	15	30	31	47	73						
TAC/HS	04	13	-01	23	26	09	19	29	33	51	71	93					
TAB/HS	17	26	-06	12	35	12	19	20	30	54	65	66	70				
TCO/HS	03	20	-02	19	06	-05	09	02	20	39	41	65	65	46			
TAP/HS	-05	-10	-15	-12	-03	-02	-03	-11	-01	-26	-35	-39	-35	-24	-26		
TDF/HS	-21	-25	-28	-18	07	-03	-02	19	-06	-07	-08	-30	-26	-12	-53	49	

Highest Correlations

1. Attitude Toward School -- Enjoyment (interview) = .40
2. Rules Reasonable -- Enjoyment (interview) = .43
3. Attitude Toward School -- Rules Reasonable = .41
4. Waetjen-Liddle Learner's Self Concept-Teacher Rated SE = .40
5. Waetjen-Liddle Learner's Self Concept-Teacher Rated SR = .47
6. Waetjen-Liddle Learner's Self Concept-Teacher Rated Ach - .51
7. Waetjen-Liddle Learner's Self Concept-Teacher Rated Ability = .54
8. Waetjen-Liddle Learner's Self Concept-Teacher Rated Coop = .39
9. Prep. for Self Reliance -- Prep for high school work = .46
10. Prep. for Self Reliance -- Prep for working with others = .40

Table 50

HIGH SCHOOL FOLLOW-UP VARIABLES

One-way Analysis of Variance
(9th graders, year 2, raw scores)
N = 120
Giving Means, Ranks, & Levels of Significance of Difference for Each

	3-Way Grouping (by type)				6-Way Grouping (by individual schools)						
Group: Open-Trad (Elem-HS Codes)	0-0 5-14	0-T 1,3,4-11	T-T 6,8-11,13	P	0-0 5-14	0-T 1-11	0-T 3-11	0-T 4-11	T-T 6-13	T-T 8-11	P
N =	25	46	49		25	14	16	16	40	9	
VARIABLE											
BASPRP	3.04	3.39	4.00	.01	3.04	3.43	2.81	3.94	3.98	4.11	.001
	3	2	1		5	4	6	3	2	1	
SRPRP**	3.96	4.24	4.27	NS	3.96	4.36	4.06	4.31	4.40	3.67	NS
	3	2	1		5	2	4	3	1	6	
COOPRP**	4.16	4.43	4.39	NS	4.16	4.50	4.25	4.56	4.48	4.00	NS
	3	1	2		5	2	4	1	3	6	
CANDO**	4.24	4.13	4.14	NS	4.24	4.14	4.31	3.94	4.18	4.00	NS
	1	3	2		2	4	1	6	3	5	
INTRST	4.56	3.46	3.39	.001	4.56	3.71	2.94	3.75	3.50	2.89	.001
	1	2	3		1	3	5	2	4	6	
ENJOY	4.64	3.98	3.65	.01	4.64	3.64	4.19	4.06	3.48	4.44	.01
	1	2	3		1	5	3	4	6	2	
RULES	4.68	3.67	3.57	.001	4.68	3.43	3.94	3.63	3.58	3.56	.001
	1	2	3		1	6	2	3	4	5	
MCP/HS	79.56	56.62	53.57	.001	79.56	58.23	52.88	59.06	53.03	56.00	.001
	1	2	3		1	3	6	2	5	4	
ATS/HS	60.40	56.87	50,55	.001	60.40	56.00	56.94	57.56	50.45	51.00	.01
	1	2	3		1	4	3	2	6	5	
LSC/HS	55.08	52.50	51.14	.01	55.08	51.21	52.88	53.25	51.20	50.89	.05
	1	2	3		1	4	3	2	5	6	
TSE/HS	7.44	6.38	7.02	.05	7.44	7.36	5.94	5.93	6.93	7.44	.01
	1	3	2		1	3	5	6	4	1	
TSR/HS**	15.32	1[illegible].64	13.20	.05	15.32	14.57	13.25	13.20	12.93	14.44	NS
	1	2	3		1	2	4	4	6	3	
TAC/HS	19.04	16.76	16.31	.05	19.04	17.36	16.69	16.27	15.93	18.00	.05
	1	2	3		1	3	4	4	6	2	
TAB/HS	8.88	7.60	8.29	.001	8.88	7.86	7.56	7.40	8.30	8.22	.01
	1	3	2		1	4	5	5	2	3	
TCO/HS**	8.20	8.56	8.14	NS	8.20	9.14	8.19	8.40	8.15	8.11	NS
	2	1	3		3	1	4	2	5	6	
*TAP/HS**	6.48	6.60	6.57	NS	6.48	6.36	6.75	6.67	6.63	6.33	NS
	1	3	2		3	2	6	5	4	1	
*TDF/HS	6.32	3.87	4.76	.001	6.32	3.57	4.50	3.47	4.80	4.56	.001
	3	1	2		6	2	3	1	5	4	

*Low score is desirable on these variables.
**Differences not significant on these six variables.

3. Learners self concept (.01)

The T → T group was lowest on these 3 with O → T in the middle each time.

The teacher behavior ratings are more complex but the O - O group is generally highest with the O - T group generally lowest. As implied before however, the Teachers Behavior Rating form is difficult to interpret without further data.

Overall, open-school graduates maintained more positive attitudes toward school and themselves in high school than did the graduates of traditional grade schools. The authors suggest that this factor may be an indication of a carry-over resulting from learning experiences in open-grade schools, where their Attitude toward School and Learner Self-Concept scores were also higher than those of their traditional-school cohorts.

Conclusions and Summary:

The Open Elementary-to-Open High School students seemed to find the easiest and most satisfying adjustment. They are all girls and a high percentage of them are of white, upper-middle class origin - compared to the predominantly black lower and middle class open-to-traditional group. They also attended the most open grade school in the study and are continuing on the same campus at a similarly structured high school with many of their former grade school classmates. They are unique in so many respects that final conclusions must await analysis that can first control on family background and SES and then determine the effects specifically due to school influence.

However, at this point they seem to be saying they feel more "structure" and stress on academic basics in grade school would be appropriate, while they say they learned a great deal about self-responsibility, making decisions and handling their own education in grade school. High school is more demanding to them than grade school. They report that they can follow their own interests in high school, enjoy it as much as before, and find the rules fair and reasonable. They rate the high school program as quite open, and have very positive attitudes about school and high self-concepts of themselves as students. They are also rated quite highly by their teachers regarding Self-Esteem, Self-Reliance, Achievement and Ability - although they are also ranked as quite "Defensive".

They also showed the greatest continuing increases in school attitude and school self-concept over the interval between grade school and high school.

The Open Elementary-to-Traditional High School students seemed to be having a more difficult adjustment. Mostly Black and from lower socio-economic backgrounds, they were also on a much lower achievement level in grade school than the more middle class school to which they graduated.

They, too, called for "more structured" academic program in grade school to help them learn better, though they valued the experiences that helped them develop self-responsibility and group cooperation skills, as well as skills in academic areas. They find high school quite demanding, and some would prefer it to be a little more "open".

They did not feel as well prepared academically as their traditional school counterparts, but felt moderately positive about present opportunities to follow their interests at school, about high school rules and regulations, and about their ability to enjoy school this year. Their self-concept and attitude toward school were higher, and remained higher, than that of the traditional school students.

The teachers, however, ranked them low on Self-Esteem and Ability, as well as Self-Reliance and Achievement, while at the same time judging them as not very Defensive. Hence, the picture is at time ambiguous and confusing when we compare the students' self-reports and the teachers' more negative evaluations. This group of students seems to be struggling in an attempt to find success at the demands of school, while maintaining a somewhat bright attitude toward themselves and school. Undoubtedly, many of their difficulties stem from non-school factors yet to be taken into account, but perhaps their elementary school experience with an open program has served them well in encouraging positive feelings about themselves and schooling.

A "gain" score study reveals that they increased somewhat on school attitudes but showed no substantive growth in school self-concept over the interval between grade school and high school.

The Traditional Elementary-to-Traditional High School students seemed both high and low in their adjustment factors. They are mostly white and middle class, and all but a few are from the most traditional school in our sample.

They seemed satisfied with their grade school and high school programs (some would prefer a more open approach) and felt well-prepared in academic skills and in self-reliance and group skill areas. (When they evaluated school programs, it was often in terms of size, rules, etc., rather than discussing more basic matters of curriculum organizations, variety of opportunities, etc.) They did not find that the transition to high school was abrupt in the sense of a great deal more work being expected than was in grade school.

However, they recorded the lowest scores in regard to liking the rules, enjoying school and being able to follow their interests at school. Similarly, their self-concept and attitude toward school ranked lowest of all the groups. Their Teacher-Ratings were all average or low. It is interesting to note that the more "individualized" traditional school had high scores on enjoyment of school and teacher-rated self-esteem and achievement.

Hence, the group of students seems to be successful enough academically, but unsuccessful at developing more positive attitudes towards themselves and towards schooling. Indeed, they decreased in school attitudes according to the gain score analysis, while showing less than normal improvement in school self-concept over the interval between grade school and high school.

Summary. Open school children going into traditional high schools frequently stated a wish that the open elementary experience had prepared them more for the purely academic demends of their current setting. This was most frequently voiced by children scoring low on the standardized ability tests.

The traditional school teachers rated the open school arrivals relatively low on the Teacher-Rated Self-Esteem dimensions, but this finding must be seen in the context of a recurring pattern among teachers in this research. There was a consistent tendency among open, traditional elementary, and high school teachers to key on ability in their rankings, i.e. children with high ability on the standardized tests were ranked high on Teacher-Rated ability and the other ratings by the teachers seem to coincide with that initial judgment... It would be expected that there would be a relationship between ability and self-esteem, but the extent to which the teachers keyed on ability was over and beyond this, and may well indicate as much about the teacher's predispositions in making their judgments as it does about the children.

The traditional teachers ranked the open school new comers much lower on self-esteem than the new comers did; however as with the student's wish for more past structure, this is hard to interpret. One of the confounding factors is that the larger portion of these children are lower socio-economic status than the other high school students and of lower ability in the first place. Once again the ability factor seems to influence the other Teacher-Ratings. On the other hand it could be that the open school graduates of less ability have in fact been given unrealistically high self-conceptions in the less stringent open elementary setting. At the present time these questions cannot be answered.

An important finding was that for all open school children, their attitude toward school remained high--not just toward open schools but toward the traditional high schools they had just entered. In contrast to this "carry over effect" in the open school children, traditional school graduates had a more negative attitude about school which just became more negative between their last year of elementary school and their freshman year of high school.

Finally, open school graduates responded to the queries about their new adjustment to high school in a qualitatively different way than traditional students. They were more aware of pedagogical issues and differences in educational techniques *per se*, while traditional students were limited to dress codes, smoking rules and other behavior restrictions. These last two findings are less ambiguous than the ones mentioned earlier, but since this was a small sample that did not allow for clear controls on race, sex and ability, all this material must be replicated elsewhere before reliable knowledge is available.

CHAPTER XIII

CONCLUSIONS

As Roland Barth noted in 1973, there is a strong tendency in dicussions involving innovative education to compare the *best* of new educational strategies with the worst of traditional educational institutions and vice versa. This has been aptly illustrated by the clippings from the national news media that have come to our attention during involvement in this research. "Traditionalists" decry the effects of the permissive "open" schools and traditional schools are all lumped together by the opposing side as factories of alienation and wastelands of human potential.

From a social psychological point of view this politicized debate, phrased as it is in "either--or" terminology has more to do with the ego maintenance of the persons involved than it does the education of children. Certainly the recent debate involving open schools could fairly be characterized as ideological in nature. One of the recurrent consequences of such debates is a misplaced emotionality and over simplification of the issues.

To the researcher that stands outside of immediate involvement in this clash, there comes an opportunity that has been too rare in the past. For only recently has the American scene offered the empirical variety of school social organizations that now exist. Only recently has there been the widespread opportunity to see if different ways of organizing school environments have different effects on the children involved. While it would indeed be naive to think that empirical data is sufficient to quickly resolve idealogical concerns, at the very least the existence of empirically different school organizations allows for the possibility of generating findings that may live long after the initial clash of specific ideologies are over. If the open school movement folded tomorrow (and there are those that argue it already has, e.g., Donald Myers, 1974), these findings can hopefully bear on our interest in schools in general.

Whatever the "true" definition of open schools is or should be, we have studied some schools in this research characterized by observable variety and have been able to generate a plausible argument that they made some differences to their student bodies. If a person's goal is to make school a more pleasant place to be, to encourage learning as a self satisfying activity, and at the same time not take a loss in standardized achievement tests, then this study implies that it can be done--that it is possible. If self-esteem is indeed considered a desirable state of affairs that teachers feel worthy of their efforts, then this research can be taken as giving some encouragement that it is possible to foster self-esteem in the educational process.

In sum, what started out as a fairly simple debate between open vs traditional schools in this country can become a concern with education in general--a rejuggling of old taken for granted ideas. This has indeed been what has happened to a significant extent already. Joseph Featherstone, whose 1967 articles are often used to indicate the historical origin of the open school collective movement in the United States, has written in the introduction to Roland Barth's Monograph:

> I'm growing wary of slogans like open education. So is Barth. I think they may do more harm than good. Currently

> I'm seeking to enlist everybody in favor of open, informal schooling into a movement whose one slogan will be a demand for decent schools. (Barth:1972, P. x and also quoted on P. xiii in Myer, 1973).

Perhaps if this suggestion is heeded we can avoid the pitfall of quarreling over the benefits of authority vs permissiveness, structure vs freedom, intrinsic vs extrinsic rewards, affect vs cognitive factors--all of which reduce the real issues to mutually exclusive dichotomies rather than the dialectic mutually supportive relationships which they are. Then the research question can be: when, where, under what conditions should one phase or the other receive emphasis in order to foster desired states of affairs. The work by Coopersmith and Feldman (1974) on fostering self-esteem in the classroom is a good example of this even though they talk as if open classrooms are necessarily "permissive" in a pejorative sense, where as many of the early open classroom adherents would be in agreement with why they feel a rote permissiveness is damaging to children.

It is generally believed in social science circles that schools reflect, rather than change societies. Jenck's survey of recent studies of school effects on academic skills concludes that schools make very little difference in overcoming cognitive inequality and that the ones that do succeed in producing higher test scores owe this to their ability to recruit the more able students to begin with. This is to say that home effects outweigh school effects greatly in the area of cognitive development. Our data certainly seem to support this descriptive fact. As different as our schools were in social organization, when father's income was controlled and parental achievement orientations were held equal, no differences remained in standardized achievement tests in the schools. Another indication of the import of family over school, is the general finding in educational studies of a very low correlation between scores on standardized achievement tests and various indicants of later life success. To quote a summary work by Rand (Averich, et. al., 1972) prepared for the President's Commission on School Finance:

> Noncognitive factors have even greater significance in the light of recent evidence showing that the correlation is low between cognitive achievement (measured by grades and standardized tests) and later life success. Cohen (1970), Gintis (1971), and Holtzman (1971), cite evidence indicating that achievement in terms of job, social class, and general life expectations is apparently only incidentally related to school achievement. It is true that a high correlation exists between amount of education and amount of income, but there is some evidence that the relationship is based on arbitrary norms unrelated to the content of education (Berg, 1970). Moreover, Gentis promotes the thesis that noncognitive factors have a strong influence on worker earnings and productivity. He reviews evidence in support of this thesis, and shows that important dimensions of noncognitive achievement are not promoted or rewarded in most conventional schools (page 17).

If this is true, and in 1976 there have been no studies to seriously suggest it is not, a premium could well be placed on affective variables. This is especially advantageous since there is no necessary reason to see affect as opposed to the cognitive in the "either-or" rhetoric referred to above. As stated in the text, affective factors--how children feel about themselves and their schools--is in fact, inseparable from purely cognitive processes. Motivation, determination, faith in one's ability to think and understand can not be seen as irrelevant to cognitive skills! Research in the relationship between these factors is increasing and should continue to do so. This is especially the case in light of the findings of this research. If the home environment is such a strong determinate of cognitive capacities, and later opportunities for success-if the school itself can do little to change this except in certain individual cases--perhaps policy makers would do well to turn attention to the place of affective factors that schools can indeed effect. To say that schools do not compete with family influences on certain cognitive skills and economic opportunity is not to say, or to suggest in any way, that schools are not important. Schools would be important for no other reason than the fact that our children spend so much time in them. The experience should be a wholesome one. To place attention on the nurturing of self-esteem is not so soft hearted as some persons may suppose. This research has emphasized the importance of a balance between constraint and freedoms, freedom to explore for example, or be expressive does not imply freedom to do just anything one pleases: The model of self-esteem presented here is based on the assumption that a firmly felt self, a precondition for self-learning, comes into being as one uses his own capacities to control an impartial environment. As Becker quotes Pierce: "in order to have will we must overcome resistance. . . the realities of the world and the capacities of our own bodies are learned together: both come to us in terms of resistance and mastery, limitation and capacity" (1965:118-119). This is a remark as germane to learning as it is to self-esteem. To deny a child the necessity of coming to terms with a reality over and beyond his immediate desires is to deny him the very substance from which inner self-esteem and creative learning grow. This is a critical thread of thought that the leading students of self-esteem offer those interested in "open" education.

In sum, if schools do little to influence test scores and if these test scores *per se* have a smaller relationship to later life success than originally supposed, we should give significant attention to changing what we can--namely self and school attitudes.

PUBLICATIONS DERIVED FROM GRANT NO. 3-1347

Effect of Open Schools on Children

I. Articles accepted for publication or published in professional journals

1. David D. Franks and Joseph Marolla, "Efficacious Action and Social Approval as Interacting Demensions of Self-Esteem: A Tentative Formulation Through Construct Validation," to be published in the December issue of Sociometry, 1976.

2. Stephen V. Dillon and James A. Grout, "Schools and Alienation," The Elementary School Journal, Vol. 76, Number 8, May.

3. Stephen V. Dillon and David D. Franks, "Choice Making and Learner Interest," accepted for publication in 1975 by Phi Delta Kappan.

4. Stephen V. Dillon and David D. Franks, "Opening the Door to More Personalized Education," accepted for publication in 1975 by The Educational Forum.

5. Stephen V. Dillon, "Schools with Failure and Alienation," to be published in March, 1975 by the Journal of School Health.

6. Stephen V. Dillon and David D. Franks, "Open Learning Environment: Self-Identity and Coping Ability." The Educational Forum, Vol. XXXIX, #2, January, 1975: pp. 155-161.

7. Stephen V. Dillon, David D. Franks and Joseph Marolla, "In Defense of Playfullness," Elementary School Journal, Vol. 75, No. 4, January, 1975: pp. 207-213.

8. David D. Franks, Joseph Marolla, and Stephen V. Dillon, "Intrinsic Motivation and Feelings of Competency Among Students: A Preliminary Analysis," Journal of Research and Development in Education, Vol. VIII, #1, Fall 1974: pp. 20-29. (This was a special issue devoted to open education research edited by Donald Myers).

9. Stephen V. Dillon, "Open Schools Research," Input, Research Bulletin, Denver, School of Education, University of Denver, August, 1974: pp. 24-29.

10. Stephen V. Dillon and David D. Franks, "Why Open Classrooms Close Down," Nation's Schools, Vol. 93, #2, February, 1974: pp. 43-46.

11. Stephen V. Dillon and David D. Franks, "Education for Competence," The Education Digest, Vol. XXXIX, #6, February, 1974: pp. 28-32.

12. Same as above, originally published in longer form in the Elementary School Journal, Vol. 74, #2, November, 1973: pp. 68-79.

13. David D. Franks, Susan Wismer and Stephen V. Dillon, "Research Note on Peer Labeling in Kansas City Open Schools," *Phi Delta Kappan*, Vol. LV, #1, September, 1973: p. 73.
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APPENDIX A

PROGRAM IMPLEMENTATION

1. FLOS
2. DISC - TRAUB & WEISS
3. WALBERG-THOMAS
4. MAROLLA SIP
5. McPARTLAND

APPENDIX A1

FLOS

APPENDIX A1

FLOS

Freedom Within Limits in Open Schools
Observer's Checklist

Revised Scale

I. STUDENT FREEDOM DIMENSION (26 items)

A. *Choices* (13 items)

1. According to curriculum lists on analogous materials available to students, rate the variety of learning activities offered by the school.

2. How much time out of the day do students have in which there are no expectations placed on them to accomplish any pedeological goals (free time to loaf or socialize as opposed to independent study).

3. To what extent are children able to choose their own learning activities?

4. How much involvement do students have in determining curriculum content (preplanned learning activities offered to student body--for example road trips and activities involving part-time teachers or experts)?

5. To What extent are students observed playing the role of teachers to their peers.

6. To what extent do students plan their own time in regard to purely contracted study?

7. To what extent do students participate in evaluating their own performances on school work?

8. Within a given learning activity, how much responsibility

This scale is designed to strike a balance between capturing individual differences in the particular schools in this study and reflecting openness as described in general. Sole attention to the latter is left to other instruments like the Walberg-Thomas or Traub-Weiss, *et. al.*, DISC scales. Anyone using this scale should be prepared to revise it and use it in conjunction with other available scales.

do the students have for determining how they are to learn it?

9. To what degree do students determine with whom they will work on projects? (When students are working together on a project ask them how the group was chosen--by who?)

10. Do teachers know the general interests of the various students in the class? Ask teachers which students have discussed contracts derived from their spontaneous interests and discuss with students how this was implemented.

11. Rank classroom in terms of the degree to which students participate in making school rules regarding behavior codes, etc.

12. To what extent do children participate in enforcing behavior rules?

13. To what extent do students move around freely in the learning area?

B. Learning Activities (13 items)

14. To what degree do students of different age and/or class levels mix together in the same room?

15. To what extent is the collective attention of the whole class on the teacher not required.

16. To what extent is the teacher an individual-facilitator rather than a lecturer?

17. How much variety is there among the children in their ongoing study tasks?

18. To what extent is flexible movement of furnishings and equipment in evidence?

19. To what degree are students using a variety of different materials and resources?

20. To what extent are evaluations on an individual-process basis, rather than comparative grades?

21. To what extent do teachers actively encourage learning in cooperative group settings and projects?

22. To what degree do students move at their own individually determined pacing?

23. To what degree do the children seem to enjoy what they are doing in school.

24. To what degree are action and concrete-experience oriented tasks in evidence (learning by doing; use of manipulative materials)?

25. To what extent are rooms decorated with the products of children's work?

26. To what extent is independent creative work rewarded, not just covering the material?

II. ADULT CONTROL (12 items)

A. Quality of Control (6 items)

1. With what degree of clarity can the children tell the observers how they can evaluate the work in which they are engaged? Do their responses indicate that they well know what they are doing right and what they are doing wrong?

2. To what extent do children have clearly written contracts for their learning activities? Upon request, can they repeat the conditions of their contracts, e.g., are objectives clearly defined.

3. Does the teacher regulate the classroom interpersonal behavior by appealing to reason rather than authority, threats of punishment or shame tactics.

4. When the teacher leaves the classroom to what degree does preceeding classroom activity change in direction and/or slack off.

5. Can students tell the observer what classroom behaviors are not allowed and what will happen if there is an infraction of these limits?

6. To what extent does the teacher treat the students with tolerance, patience and respect?

B. Quantity (6 items)

1. To what extent is "off task" behavior (that distracts others from their work) in overt evidence in the classroom?

2. To what extent are rules imposed on the children without their explanation or input?

3. To what extent does the principal actively direct program goals and support the development of teacher skills?

4. To what degree does the teacher, independent of the student, plan and schedule the child's activities throughout the day?

5. To what extent does the teacher dictate the solution to interpersonal quarrels without involving the children in determining the solution?

6. To what extent are rewards for work placed in the hands of the teacher exclusively?

Scoring is by a Likert intensity scale for each item; 1-5 little or none through very great or quite extensive.

APPENDIX A2

DISC II

DIMENSION OF SCHOOLING

TRAUB & WEISS, et al.

DIMENSIONS OF SCHOOLING

School ______________________ Date ______________________

Grade(s) ______________________

Teacher:

The purpose of this questionnaire is to obtain a description of your class on a variety of dimensions. PLEASE RESPOND TO THE ITEMS IN TERMS OF WHAT ACTUALLY HAPPENS IN YOUR SCHOOL SITUATION. DO NOT RESPOND IN TERMS OF WHAT YOU THINK SHOULD HAPPEN.

Each page contains several categories describing situations relating to one dimension of schooling.

On each page, please read all the categories before responding to that dimension.

For each dimension, rank the categories in terms of how often they occur in your class. Assign the highest rank (1) to the category which occurs most often or to the most students. Assign the second highest rank (2) to the category which happens the next most often . . . and so on down to the lowest ranked category.

Do not rank categories which do not apply to your situation or where a ranking system is inappropriate.

Rank as many or as few of the categories as you feel are appropriate for describing your class situation.

Items 1-6 refer to the general school situation; Items 7-30 should refer to the four main subject areas specified. Please respond only to subject areas which you teach. If you teach a subject area not listed, please write it under OTHER and respond in that column.

("Class" in this questionnaire is defined as the group of students assigned to you at this time).

(c) Educational Evaluation Program
The Ontario Institute for Studies in Education

Example Item

Library Usage

A.	Students go to the school library individually whenever they wish.	3
B.	Students go to the school library individually with the permission of their teachers.	2
C.	Students go to the school library in groups with the supervision of a teacher or librarian.	1
D.	Students go to the school library mainly outside regular school hours.	

The response in the example describes a situation in which the most frequently occurring category is "C"; the second most frequently occurring category is "B"; the third most frequently occurring category is "A"; and "D" simply does not occur.

Remember you may rank as few or as many of the categories as are appropriate for your situation.

Items 7 - 30 are concerned with subject matter areas. Please respond as before for each of the subject areas that you teach. That is, rank the categories in terms of how often they apply to your situation. This will require a column of ranks for each subject that you teach.

If you teach a subject which is not listed, respond in the column headed "other". Please specify the subject.

If you use "integrated subjects" respond in the column headed "other" (and specify "integrated subjects" in the place provided).

1. ASSIGNMENT OF STUDENTS TO TEACHERS. This section is concerned with who makes the decisions about student assignment to teachers.

A. Class assignments are decided upon by students.

B. Class assignments are decided upon by parents.

C. Class assignments are decided upon by teachers.

D. Class assignments are decided upon by principal or vice principal.

2. TIME SCHEDULING. This section is concerned with the amount of time which is blocked into scheduled activities

A. Fully Unscheduled: Activities (eg. math or other subjects, outdoor play, work with art materials, etc.) are not scheduled but occur as students' and/or teachers' interests dictate.

B. Mostly Unscheduled: Activities are not scheduled for most of the day, but there are some activities (no more than 1/4 of the day) that are held at specific times (e.g. a French lesson given by a teacher who comes from outside the school or reading, etc.).

C. Scheduled and Unscheduled: Approximately 1/2 the day is unscheduled with the other 1/2 blocked into scheduled activities.

D. Mostly scheduled: Activities are scheduled for most of the day (about 3/4) but the rest of the time is left unscheduled so that activities occur as students' and teachers' interests dictate.

E. Fully scheduled: The full day is organized into activities that occur according to some pre-arranged time-table.

3. FREE TIME. This section is concerned with the amount of time during which students are free to pursue their own interests. This is not the same as independent study time where students work on projects or assignments in a particular subject area.

A.	The entire day is available for students to pursue their own interests (free time).	
B.	At least half the day is available as free time.	
C.	One - two hours of free time are available each day.	
D.	Less than one hour of free time is available each day.	
E.	There is no free time available.	

4. RULE-MAKING. This section is concerned with determining who makes the rules which govern school behaviour

A. Rules for student conduct are made by the administrative staff (principal, vice principal).

B. Rules for student conduct are made by the teachers.

C. Rules for student conduct are made by the parents.

D. Rules for student conduct are made by the students.

5. RULE-ENFORCING. This section is concerned with determining who enforces the rules governing general school behaviour.

A. Rules for student conduct are enforced by the administrative staff (principal, vice principal).

B. Rules for student conduct are enforced by the teachers.

C. Rules for student conduct are enforced by the parents.

D. Rules for student conduct are enforced by the students.

6. DEFINING GENERAL OBJECTIVES. This section is concerned with who specifies the general objectives, (aims, goals, philosophy, expected outcomes) of schooling.

A. The objectives are defined by the administrative staff (i.e. the school board, central administration, principal).

B. Objectives are defined by teachers.

C. Objectives are defined by parents.

D. Objectives are defined by students.

E. Objectives are not defined.

7. **STUDENTS' MOBILITY.** This section is concerned with the amount of freedom which students have to move around the school on a regular basis.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. Students do not need the permission of the teacher to leave the classroom, but freely move in and out of the room (or area) to use the library, resource centre, etc.					
B. Students must ask the teacher's permission to move in and out of the classroom to use the library, resource centre, etc. but permission is usually given readily.					
C. Students move in and out of the classroom to use the library, resource centre, etc. only in special circumstances (i.e., with special permission) or as class groups.					

8. DEVELOPMENT OF MATERIALS. This section is concerned with the amount of personal involvement that students and teachers have in the development of materials for the classroom.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. There is little involvement of teachers and/or students in developing materials; i.e. most materials in use are ready-to-use "packages" (e.g. reading series, sets of math texts, computer-assisted instruction, etc.).					
B. There is some involvement of teachers and/or students in developing materials; i.e. most materials in use are things chosen by teachers, students, or others from a wide variety of sources in a ready-to-use form (e.g. books not in series, an abacus, a film, etc.).					
C. There is a great deal of involvement of teachers and/or students in developing materials; i.e., most materials in use have been developed, created or adapted by students, teachers and others specifically for situations which arose in this classroom (e.g. collections of objects for use in working out math problems, books, tape recordings or films made by students or teachers, equipment built by parents, etc.					

9. **SELECTION OF MATERIALS.** This section is concerned with the involvement students have in selecting materials with which to work.

	Science	Math	Social Studies	Reading, Lang.A	Other
A. Students choose for themselves from all the materials available and may bring in materials from outside the classroom					
B. Students chose from alternatives suggested by the teacher.					
C. Students are assigned materials prescribed for them individually.					
D. Student is assigned materials prescribed to members of his subgroup of the class. Same materials for all students in the same subgroup; different materials for each subgroup.					
E. Student is assigned materials prescribed to all members of his class. (Same materials for all students in the same class).					

10. FLEXIBILITY OF ENVIRONMENT. This section is concerned with who makes the decisions about the arrangement and the setting up of the learning area.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. The arrangement of furniture and equipment in the learning area is decided upon by the administrative staff and doesn't change frequently.					
B. The arrangement of furniture and equipment in the learning area is decided upon and changed by the teachers.					
C. The arrangement of furniture and equipment in the learning area is decided upon and changed by the students.					

11. LEARNING ENVIRONMENT. This section concerns the size of the area used by students during the school day.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. Study and other activities take place at the student's own desk or table					
B. Study and other activities take place in a number of different places (centers) within the classroom area.					
C. Study and other activities take place in a number of different places (centers) within the school.					
D. Study and other activities take place on a fairly regular basis outside the school; the community and its institutions are incorporated into the learning environment. (e.g. a class is held in a museum or students go on a weekly nature walk or a few students and a teacher aide spend time walking around a shopping area and visiting a butcher, a baker, a shoemaker's shop. This does not refer to occasional outings or class trips).					

12. OTHER ADULT INVOLVEMENT. This section is concerned with the involvement of adults other than teachers in the classroom

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. All teaching is done by the regular classroom teacher and special subject teachers.					
B. Although most of the teaching is done by the classroom and special teachers, occasionally there are visitors, parents or volunteers who have special knowledge of a topic, or who help in a practical way in the classroom (e.g. a student's mother who is a doctor may talk to a class about what doctors do, or a parent may help decorate the classroom for a party).					
C. Although much of the teaching is done by the classroom and special teachers, there are regularly involved parents, volunteers and frequent visitors who are welcome in the classroom and whose involvement is considered an important part of the learning experience. (e.g. a parent spends an afternoon a week at the school working with the students in art or a university student comes regularly to tutor students in math).					

13. PEER GROUP ASSISTANCE. This section is concerned with the extent to which students work with other students on schoolwork.

A. Students independently seek assistance in their schoolwork from peers or other students; this is a frequent occurrence in the class and is accepted and encouraged as a valid way of seeking solutions or of exploration.

B. There is occasional student-to-student assistance on a somewhat formal teacher-initiated basis (e.g. the teacher assigns a good reader to help a poorer reader or arranges for a tutor).

C. Assistance almost always comes from the teacher.

Science	Math	Social Studies	Reading, Lang. Arts	Other

14. MEDIA USAGE. This section concerns the use of media as teaching aids in instruction.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. Teachers and books are the primary media of instruction					
B. Teachers and books are augmented by media which is used by the teacher (e.g. the teacher shows a film or plays a record for the class).					
C. Teachers and books are augmented by media which students have ready access to and use themselves (e.g. tape recorders or videotape equipment or records).					

15. **TEACHER FOCUS.** This section concerns the size of the student group addressed by the teacher at one time.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. The teacher directs attention to the class as a whole.					
B. The teacher directs attention to subgroups of the class					
C. The teacher directs attention to individual students.					

16. TEACHER ROLE. This section is concerned with the role the teacher plays in the student's contact with what is being learned.

	Science	Math	Social Studies	Reading, Lang. Arts	Other ______
A. The teacher acts as a resource person to whom students come when seeking information and ideas.					
B. The teacher acts as a discussion leader on topics initiated by the students					
C. The teacher acts as a discussion leader on topics of his/her choice.					
D. The teacher acts as a presenter of planned lessons.					

17. COOPERATIVE TEACHING. This section is concerned with the extent to which teachers plan and teach together.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. Teachers plan and teach independently of each other.					
B. Teachers discuss and plan work together but teach independently.					
C. Teachers discuss, plan, and work on special projects together but generally maintain independence in regular teaching.					
D. Teachers discuss, plan and work cooperatively so that they function as a coordinated unit.					

18. STUDENT INVOLVEMENT IN FORMULATING APPROACHES TO LEARNING. This section is concerned with the extent to which teachers help students arrive at approaches to learning and problem solving.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. Students formulate their own methods of learning and solving problems (e.g. a student studying the Arctic independently consults several people, looks in the card catalogue at the library, and writes to the government for information).					
B. Students choose from alternative methods suggested by the teacher for learning and solving problems (e.g. A student studying the Arctic asks the teacher for help. The teacher suggests two books, a film strip and writing to the government).					
C. Students are assigned methods by the teacher for learning and solving problems (e.g. a student studying the Arctic is assigned the tasks of writing a letter to the government, reading two books, and viewing a filmstrip).					

19. STUDENT PACING. This section is concerned with the pace at which the student works.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. The student is expected to work at a pace set for all members of the class					
B. The student is expected to work at a pace set for the members of his subgroup of the class.					
C. The student works at a pace prescribed for him individually.					
D. The student sets his own pace.					

20. ATTENDANCE. This section is concerned with students' physical presence at class activities.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. Attendance at all activities of the class is not required (e.g. a math lesson is scheduled; a student is involved in another project and chooses not to attend the class).					
B. Attendance at more than half the activities of the class is not required (e.g. it is required that a student attend a reading lesson, but he may choose not to be present for a social studies lesson).					
C. Attendance at less than half the activities of the class is not required.					
D. Attendance at all the activities of the class is required.					

21. INDEPENDENT STUDY TIME. This section concerns the amount of time available for independent study; students work by themselves on projects of their choice but in keeping with the wide range objectives of the subject area (e.g. during a geography unit on the Middle East, a student might use his independent study time to create a paper mache relief map of the Sinai Penninsula).

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. Independent study time is available as the need arises.					
B. There are 1-3 hours of independent study time available weekly.					
C. There are 1/2-1 hours of independent study time available weekly.					
D. There is no independent study time available.					

22. SUBGROUPING CRITERIA. This section is concerned with how subgroups within the class are developed.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. Students group themselves according to their own criteria (e.g. interests, friendships, etc.).					
B. Students are grouped by the teacher on the basis of information about students' interests, aptitude, achievement, or social maturity.					
C. Students are grouped by the teacher on the basis of random assignment e.g. alphabetically, by sex or by size.					

23. SUBGROUPING STABILITY. This item is concerned with the establishment and change in the composition of subgroups within the class.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. Subgroups within the class are established for the duration of a specified period of time (e.g. for the school year of for a term).					
B. Subgroups within the class are established and/or reorganized when the teacher feels it is necessary and/or desirable (e.g. for a new activity or when students' interests change).					
C. Subgroups within the class are established and/or reorganized when students feel it is necessary and/or desirable (e.g. for a new activity or when students' interests change).					

24. AGE RANGE. This section is concerned with the range of age of students in one class.

A. Students in the class are about the same age (except those who, at one time, have been either promoted or who have skipped a grade); age is the primary criterion for assigning a student to a class.

B. Students in the class are in a two or three year age range; there is a semi-graded system which will allow, to some extent, that individual differences in physical, social and intellectual maturity will be considered in assigning students to a class or grade.

C. Students in the class vary in age by more than three years; there is a multiage system which allows students with a wide variety of qualifications and ages to be in the same class.

Science	Math	Social Studies	Reading, Lang. Arts	Other

25. **DEFINING INSTRUCTIONAL OBJECTIVES** This section concerned with who specifies the objectives of schooling specific to each subject area

	Science	Math	Social Studies	Reading, Lang. Art	Other
A. The objectives are defined by the administrative staff (school board, central administration, principal).					
B. Objectives are defined by teachers.					
C. Objectives are defined by parents.					
D. Objectives are defined by students.					
E. Objectives are not defined.					

26. PROMOTION TIMING. This section is concerned with when moves from grade to grade or from class to class occur (based on achievements or maturity.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. Promotion decisions are made at the end of the school year or term.					
B. Promotion decisions are made at the end of each unit of study.					
C. Promotion decisions are made whenever it seems appropriate for the individual student.					
D. Promotion does not occur. Rather, students remain in a class unit or intact group for several years.					

27. EVALUATION FOCUS. This section is concerned with the size of the group being evaluated.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. Evaluation procedures are the same for all students in the school					
B. Evaluation procedures are the same for all students in the class, but differ from class to class in the school.					
C. Evaluation procedures are the same for each student within a subgroup of the class but differ from subgroup to subgroup.					
D. Evaluation procedures are different for each student in the class.					

28. TIMING OF EVALUATION. This section is concerned with the time(s) at which evaluation takes place.

A. Evaluation takes place at a few specified intervals (e.g. the end of each term).

B. Evaluation takes place at more frequent intervals (e.g. monthly or weekly).

C. Evaluation takes place all the time (e.g. daily).

	Science	Math	Social Studies	Reading, Lang. Arts	Other ______
A					
B					
C					

29. STUDENT ROLE IN EVALUATION. This section is concerned with the degree to which students plan how their evaluation is to take place, i.e. developing procedures, collecting and analyzing data, making judgments, deciding when evaluation takes place, etc.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. Students have the responsibility for planning and implementing evaluation procedures.					
B. Teachers have the responsibility for planning and implementing evaluation procedures.					
C. The administration has responsibility for planning and implementing evaluation procedures.					

30. EVALUATION PROCEDURES. This section concerns with the types of tests and other evaluation instruments used in student evaluation.

	Science	Math	Social Studies	Reading, Lang. Arts	Other
A. No formal tests are used; evaluation is based on work samples and anecdotal reports.					
B. Evaluation instruments used were developed in this classroom.					
C. Evaluation instruments used were developed within the school (by other teachers or in previous years).					
D. Standardized (commercial) instruments are used.					

Scoring for Weiss-Traub DISC

Department of Measurement and Evaluation

Scoring System for Dimensions of Schooling Instrument

1. Option-weights: Order the options to each item from most open to most closed and weight them as follows: Assign the weight a (where a is one less than the number of options) to the most open option, the weight a-1 to the second most open option, and so on. The most closed option receives a weight of 0.

2. Rank-weights: Weight the ranks assigned by a respondent to the options of the item as follows:

Rank	Weight		
	3-option item	4-option item	5-option item
1	8	18	35
2	2	3	4
3	1	2	3
4		1	2
5			1

3. Compute the basic score for the item by multiplying the weight for the rank of one by the weight for the option that was assigned the rank of one.

4. When more than one option to an item has been ranked, adjust the basic score by adding the following amount to it.

   Adjustment = (rank-weight) x (option-weight of option
   receiving rank smaller than one
   - option-weight of option ranked one)

5. Compute this adjustment for each additional option that was ranked and add each adjustment to the basic score. The result is the score for the item.

6. To ensure each item receives equal weight, divide the score obtained in step 5 by the maximum possible score for the item. This maximum depends on the number of options an item has, as is indicated in the following table.

No. of options	Maximum Possible Score
3	16
4	54
5	140

Consider a couple of examples:

B.G. 1	Option		Rank
	A	(most) (open)	2
	B		1
	C	(most) (closed)	

Basic Score = 8 x 1 = 8
Adjustment = 2 x (2-1) = 2
Adjusted Score = 8 + 2 = 10

B.G. 2			
	A	(most) (open)	1
	B		
	C	(most) (closed)	2

Basic Score = 8 x 2 = 16

Adjustment = 2 x (0 - 2) = -4

Adjusted Score = 16 - 4 = 12

Discussion:

For 3-option items, the proposed scoring procedure will produce the following scores for each possible ranking of the options:

Option	Different Possible Rankings														
(open)															
A	1	1	1	1	1		2		2	3			2	3	2
B		2		2	3	1	1	1	1	1		2	[illegible]	2	3
C			2	3	2	[illegible]		2	3	2	1	1	1	1	1
(closed)															
Score	16	14	12	12	11	8	10	6	9	7	0	2	4	4	5

Note that the basic score determines the general level
That is, all rankings in which option A is ranked 1 have higher scores than rankings in which option B is ranked 1, etc. The adjustments differentiate among the possible rankings in which option A (or B or C) is ranked 1.

The same general result holds for items with 4 or more options. However, it is obvious that the number of different possible rankings increases as the number of options increases. Therefore, the scoring scheme must be able to discriminate among more possible answers as the number of options increases. This accounts for the reason why the weight for the rank of one needs to be increased as the number of options increases.

High Score = more "open" program.

APPENDIX A3

WALBERG-THOMAS
DEGREE OF OPENNESS SCALE

APPENDIX A3
Walberg-Thomas
OBSERVATION – RATING SCALE

(Journal of Research and Development in Education
Volume 8, Number 1, Fall 1974, pp. 10-11)

Code*		Theme**	no evidence	weak infrequent	moderate occasional	strong frequent evidence
–	1. Texts and materials are supplied in class sets so that all children may have their own.	P	1	2	3	4
+	2. Each child has a space for his personal storage and the major part of the classroom is organized for common use.	P	1	2	3	4
–	3. Materials are kept out of the way until they are distributed or used under the teacher's direction.	P	1	2	3	4
+	4. Many different activities go on simultaneously.	P	1	2	3	4
–	5. Children are expected to do their own work without getting help from other children.	P	1	2	3	4
+	6. Manipulative materials are supplied in great diversity and range, with little replication.	P	1	2	3	4
+	7. Day is divided into large blocks of time within which children, with the teacher's help, determine their own routine.	P	1	2	3	4
+	8. Children work individually and in small groups at various activities.	P	1	2	3	4
+	9. Books are supplied in diversity and profusion (including reference, children's literature).	P	1	2	3	4
–	10. Children are not supposed to move about the room without asking permission.	P	1	2	3	4
–	11. Desks are arranged so that every child can see the blackboard or teacher from his desk.	P	1	2	3	4
+	12. The environment includes materials developed by the teacher.	P	1	2	3	4
+	13. Common environmental materials are provided.	P	1	2	3	4
+	14. Children may voluntarily make use of other areas of the building and school yard as part of their school time.	P	1	2	3	4
+	15. The program includes use of the neighborhood.	P	1	2	3	4
+	16. Children use "books" written by their classmates as part of their reading and reference materials.	H	1	2	3	4
–	17. Teacher prefers that children not talk when they are supposed to be working.	P	1	2	3	4
+	18. Children voluntarily group and regroup themselves.	P	1	2	3	4
+	19. The environment includes materials developed or supplied by children.	H	1	2	3	4
–	20. Teacher plans and schedules the children's activities through the day.	P	1	2	3	4
–	21. Teacher makes sure children use materials only as instructed.	P	1	2	3	4
+	22. Teacher groups children for lessons directed at specific needs.	I	1	2	3	4
+	23. Children work directly with manipulative materials.	P	1	2	3	4
+	24. Materials are readily accessible to children.	P	1	2	3	4
+	25. Teacher promotes a purposeful atmosphere by expecting and enabling children to use time productively and to value their work and learning.	P	1	2	3	4
–	26. Teacher uses test results to group children for reading and/or math.	D	1	2	3	4
–	27. Children expect the teacher to correct all their work.	D	1	2	3	4
+	28. Teacher bases her instruction on each individual child and his interaction with materials and equipment.	I	1	2	3	4

		Theme**	no evidence	weak infrequent	moderate occasional	strong frequent evidence
–	29. Teacher gives children tests to find out what they know.	D	1	2	3	4
+	30. The emotional climate is warm and accepting.	A	1	2	3	4
–	31. The work children do is divided into subject matter areas.	I	1	2	3	4
–	32. The teacher's lessons and assignments are given to the class as a whole.	I	1	2	3	4
+	33. To obtain diagnostic information, the teacher closely observes the specific work or concern of a child and asks immediate, experience-based questions.	D	1	2	3	4
–	34. Teacher bases her instruction on curriculum guides or textbooks for the grade level she teaches.	I	1	2	3	4
+	35. Teacher keeps notes and writes individual histories of each child's intellectual, emotional, physical development.	E	1	2	3	4
–	36. Teacher has children for a period of just one year.	E	1	2	3	4
+	37. The class operates within clear guidelines made explicit.	A	1	2	3	4
–	38. Teacher takes care of dealing with conflicts and disruptive behavior without involving the group.	H	1	2	3	4
+	39. Children's activities, products, and ideas are reflected abundantly about the classroom.	H	1	2	3	4
+	40. The teacher is in charge.	H	1	2	3	4
+	41. Before suggesting any extension or redirection of activity, teacher gives diagnostic attention to the particular child and his particular activity.	I	1	2	3	4
+	42. The children spontaneously look at and discuss each other's work.	P	1	2	3	4
–	43. Teacher uses tests to evaluate children and rate them in comparison to their peers.	E	1	2	3	4
+	44. Teacher uses the assistance of someone in a supportive, advisory capacity.	S	1	2	3	4
–	45. Teacher tries to keep all children within her sight so that she can make sure they are doing what they are supposed to do.	SP	1	2	3	4
+	46. Teacher has helpful colleagues with whom she discusses teaching.	S	1	2	3	4
+	47. Teacher keeps a collection of each child's work for use in evaluating his development.	E	1	2	3	4
+	48. Teacher views evaluation as information to guide her instruction and provisioning for the classroom.	E	1	2	3	4
–	49. Academic achievement is the teacher's top priority for the children.	A	1	2	3	4
+	50. Children are deeply involved in what they are doing.	A	1	2	3	4

*Items with a positive sign indicate open education practice; those with a negative sign, traditional.

**Code letters for the theme are the first initial of each theme; see text.

APPENDIX A4

SIP

MAROLLA SALIENT IDENTITY PEGS

CONGRUENCE OF ROLES AND SELF CONCEPTIONS

APPENDIX A4
(SIPQ1)

Self-Evaluation on 5 Roles

BEFORE STARTING MAKE SURE YOU UNDERSTAND THESE INSTRUCTIONS

Read down the list of words in Column A and circle seven (7) of them that are important for you to be or do. If there is something you would like to add to the list, write it in the empty spaces at the bottom of the list. In the next column (Column B) order the words you have circled or added by placing number 1 next to the most important, number 2 beside the next important, until you have a number beside each circled word. Finally, in Column C, would you please check the space that best describes how good you think you are at these things. (SIP1)

Column A	Column B	Column C				
		Very Good	Good	Average	Poor	Very Poor
Artist..............						
Musician.............						
To be kind to others.						
Being studious.......						
Athlete..............						
Dancer...............						
To be independent....						
Slick Guy, Girl......						
Being respected......						
To be creative.......						
Mechanic.............						
Mathematician........						
Having ability to lead others........						
Cook.................						
Tough Guy, Girl......						
Being honest.........						
Carpenter............						
Photographer.........						
Helper...............						
Model Builder........						
Gymnist..............						
To be successful.....						
Clothesmaker.........						
Reader...............						
Popular with my friends...........						
Make things..........						
Scientist............						
To be happy..........						
Good dresser.........						
______________......						
______________......						
______________......						

(SIPQ2,4,5)

Time School Allows for 5 roles, for all roles, self-evaluation on all roles
2

Would you please check off, in Column B the amount of time the school allows you to do or be the things listed below and any things that you added to the preceding list. Next, in Column C, check the space that best describes how good you think you are at these things in school.

Column A	Column B					Column C				
	Very Little	A Little	Some-times	Often	Very Often	Very Good	Good	Average	Poor	Very Poor
Artist..........										
Musician.........										
To be kind to others........										
Being studious..										
Athlete.........										
Dancer..........										
To be independent...										
Slick Guy, Girl.										
Being respected.										
To be creative..										
Mechanic........										
Mathematician...										
Having ability to lead others										
Cook...........										
Tough Guy, Girl.										
Being honest....										
Carpenter.......										
Photographer....										
Helper..........										
Model Builder...										
To be successful....										
Clothesmaker....										
Reader..........										
Popular with my friends.......										
Make things.....										
Scientist.......										
To be happy.....										
Good dresser....										
__________.....										
__________.....										
__________.....										

for chosen 5 = SIPQ2
for all roles = SIPQ4

[for chosen 5 = SIPQ3]
for all roles = SIPQ5

APPENDIX A5

McPARTLAND

STUDENT'S PERCEPTION OF OPENNESS

APPENDIX A5
McPartland School Openness Scale
Students 1973-74

Read each sentence below. Then, for each of the subjects listed, check the line that is how often the statement is true for you in each subject.

1. In class, I must sit next to the same students.

	Always	Often	Sometimes	Seldom	Never
Language Arts...					
Math............					
Social Studies..					
Science.........					

2. I can talk to other students while I work.

	Always	Often	Sometimes	Seldom	Never
Language Arts...					
Math............					
Social Studies..					
Science.........					

3. In class, I can move about the room without asking the teacher.

	Always	Often	Sometimes	Seldom	Never
Language Arts...					
Math............					
Social Studies..					
Science.........					

4. In class, the teacher stands in front of the room and works with the class as a whole.

	Always	Often	Sometimes	Seldom	Never
Language Arts...					
Math............					
Social Studies..					
Science.........					

5. When I am working on a lesson, the other students in my class are working on the same lesson.

	Always	Often	Sometimes	Seldom	Never
Language Arts...					
Math............					
Social Studies..					
Science.........					

6. There are several assignments the teacher tells me I could select, and I choose the one I want to work on.

	Always	Often	Sometimes	Seldom	Never
Language Arts...					
Math............					
Social Studies..					
Science.........					

7. I could fall behind in my work without the teacher finding out about it for a couple of weeks or more.

	Always	Often	Sometimes	Seldom	Never
Language Arts...					
Math............					
Social Studies..					
Science.........					

APPENDIX A5

McPartland School Openness Scale

Teachers 1973-74

Read each sentence below. Then, for each subject area you teach, check the line at tells how often the statement is true for students you teach.

1. In class, students must sit next to the same students.

	Always	Often	Sometimes	Seldom	Never
Language Arts..	____	____	____	____	____
Math...........	____	____	____	____	____
Social Studies.	____	____	____	____	____
Science........	____	____	____	____	____

2. The students can talk to other students while they work.

	Always	Often	Sometimes	Seldom	Never
Language Arts..	____	____	____	____	____
Math...........	____	____	____	____	____
Social Studies.	____	____	____	____	____
Science........	____	____	____	____	____

3. In class, the students can move about the room without asking me.

	Always	Often	Sometimes	Seldom	Never
Language Arts..	____	____	____	____	____
Math...........	____	____	____	____	____
Social Studies.	____	____	____	____	____
Science........	____	____	____	____	____

4. In class, I stand in front of the room and work with the class as a whole.

	Always	Often	Sometimes	Seldom	Never
Language Arts..	____	____	____	____	____
Math...........	____	____	____	____	____
Social Studies.	____	____	____	____	____
Science........	____	____	____	____	____

5. When a student is working on a lesson, the other students in my class are working on the same lesson.

	Always	Often	Sometimes	Seldom	Never
Language Arts..	____	____	____	____	____
Math...........	____	____	____	____	____
Social Studies.	____	____	____	____	____
Science........	____	____	____	____	____

6. There are several assignments the students could select, and they choose the one they want to work on.

	Always	Often	Sometimes	Seldom	Never
Language Arts..	____	____	____	____	____
Math...........	____	____	____	____	____
Social Studies.	____	____	____	____	____
Science........	____	____	____	____	____

7. A student could fall behind in his work without me finding out about it for a couple of weeks or more.

	Always	Often	Sometimes	Seldom	Never
Language Arts..	____	____	____	____	____
Math...........	____	____	____	____	____
Social Studies.	____	____	____	____	____
Science........	____	____	____	____	____

APPENDIX A5

(MCPOP)

SPRING 1974

McPARTLANDS' 6 ITEM SCHOOL OPENNESS SCALE
COMBINED ITEMS 1-6; GRADES 7-8

Crombachs' Alpha = .51
Homogeneity Ratio = .15
Mean = 78.11
SD = 12.71
N = 461
No. of Items = 6

(Scoring 1-5 for each of 4 subject areas = 5-20 TOTAL, Hi = Open) * = reversed

Items	Mean	SD	R(IT)	N
1. In class I must sit next to the same students. *	13.25	5.25	.35	460
2. I can talk to other students while I work.	12.73	3.14	.16	459
3. In class, I can move about the room without asking the teacher.	13.31	4.43	.26	460
4. In class, the teacher stands' in front of the room and works with the class. *	13.24	3.51	.28	461
5. When I'm working on a lesson, the other students in my class are working on the same lesson. *	12.82	2.90	.36	459
6. There are several assignments the teacher tells me I could select and I choose the one I want.	12.76	3.90	.21	461
7. I could fall behind in my work without the teacher finding out about it for a couple of weeks or more.	DELETED			

APPENDIX B

OUTCOME VARIABLES

1. COOP Self Report
2. COOP TBR
3. LSC
4. GWSR
5. JOCOMP
6. JOLGS
7. SD/EVA - SD/POT
8. ATS
9. ATT
10. DILAL
11. GORDON
12. SOURCE
13. SOCDES
14. SHOC
15. IQ - COMPOS - NAT PCTL

APPENDIX 1

(COOP)
Fall 1973
7th and 8th Graders
COOPERSMITH SELF-REPORTED SELF-ESTEEM (short version)

Crombach's Alpha: .77; Homogeneity Ratio: .13; $\overline{x} = 31.4$; sd = 4.12

Item	Scoring	Mean	SD	R(IT)	N
1. I'm pretty sure of myself.	1-2	1.17	.38	.33	476
2. I often wish I were someone else.	2-1	1.43	.49	.38	476
3. My parents and I have a lot fun together.	1-2	1.18	.38	.34	476
4. I never worry about anything.	1-2				
5. There are lots of things about myself I'd change if I could.	2-1	1.72	.45	.27	476
6. I can make up my mind without too much trouble.	1-2				
7. I'm a lot of fun to be with.	1-2	1.13	.33	.29	476
8. I'm popular with kids my own age.	1-2	1.24	.42	.30	476
9. My parents usually consider my feelings.	1-2	1.27	.45	.32	476
10. I can usually take care of myself.	1-2				
11. I would rather be with kids younger than me.	2-1	1.11	.32	.25	476
12. I like everyone I know.	1-2				
13. I like to be called on in class.	1-2	1.44	.50	.27	476
14. Kids usually follow my ideas.	1-2	1.36	.48	.31	476
15. I'm not doing as well in school as I'd like to.	2-1	1.58	.50	.22	476
16. I really don't like being a boy-girl.	2-1	1.16	.36	.24	476

COOPERSMITH SELF-REPORTED SELF-ESTEEM (short version)
(Continued)

Item	Scoring	Mean	SD	R(IT)	N
17. I don't like to be with other people.	2-1	1.11	.31	.22	476
18. I'm never shy.	1-2				
19. I often feel upset in school.	2-1	1.50	.50	.37	476
20. I'm never unhappy.	1-2				
21. I often feel ashamed of myself.	2-1	1.50	.50	.34	476
22. If I have something to say, I usually say it.	1-2	1.32	.46	.32	476
23. My parents understand me.	1-2	1.22	.33	.32	476
24. My teacher makes me feel like I'm not good enough.	2-1	1.30	.45	.41	476
25. I don't care what happens to me.	2-1	1.12	.33	.31	476
26. I'm a failure.	2-1	1.10	.30	.40	476
27. I get upset easily when I'm bawled out.	2-1	1.50	.50	.27	476
28. I usually feel as if my parents are pushing me.	2-1	1.33	.47	.33	476
29. I always know what to say to people.	1-2				
30. I often get discouraged in school.	2-1	1.50	.50	.40	476
31. I can't be depended on.	2-1	1.15	.36	.16	476

APPENDIX 2
(TBR)
TEACHER BEHAVIOR RATING FORM
December 1972

1. Does this child adapt easily to new situations, feel comfortable in new settings, enter easily into new activities?

______always	______usually	______sometimes	______seldom	______never
5	4	3	2	1

2. Does this child hesitate to express his opinions, as evidenced by extreme caution, failure to contribute, or a subdued manner in speaking situations?
   Scoring: 1-5

3. Does this child become upset by failures or other strong stresses as evidenced by such behaviors as pouting, whining, or withdrawing?
   Scoring: 1-5

4. How often is this child chosen for activities by his classmates? Is his companionship sought for and valued?
   Scoring: 5-1

5. Does this child become alarmed or frightened easily? Does he become very restless or jittery when procedures are changed, exams are scheduled or strange individuals are in the room?
   Scoring: 1-5

6. Does this child seek much support and reassurance from his peers or the teacher, as evidenced by seeking their nearness or frequent inquiries as to whether he is doing well?
   Scoring: 1-5

7. When this child is scolded or criticized, does he become either very aggressive or very sullen and withdrawn?
   Scoring: 1-5

8. Does this child deprecate his school work, grades, activities, and work products? Does he indicate he is not doing as well as expected?
   Scoring: 1-5

9. Does this child show confidence and assurance in his actions toward his teachers and classmates?
   Scoring: 5-1

10. To what extent does this child show a sense of self-esteem, self-respect, and appreciation of his own worthiness?
    Scoring: 5-1

Teacher Behavior Rating Form
Page 2
(TBR/DEF)

Defensiveness Items:

11. Does this child publicly brag or boast about his exploits?
Scoring: 5-1

12. Does this child attempt to dominate or bully other children?
Scoring: 5-1

13. Does this child continually seek attention, as evidenced by such behaviors as speaking out of turn and making unnecessary noises?
Scoring: 5-1

APPENDIX 3

(LSC)

Spring 1974
WAETJEN- Liddle Learner Self Concept
(Revised from Little's Instrument)
7th and 8th grades

Crombach's Alpha: .82; Homogeneity Ratio: .14; Mean: 51.52; sd: 5.20

Item	Scoring	Mean	SD	R(IT)	N
(51) 1. I usually like to go to school.	Y=2;N=1	1.76	.42	.26	460
(52) deleted					
(53) 2. When school work is hard, I usually give up.	Y=1;N=2	1.86	.35	.36	459
(54,55) don't exist					
(56) 3. I do my schoolwork without being told more than once.	Y=2;N=1	1.68	.47	.29	460
(57) 4. I like to start work on new things.	Y=2;N=1	1.91	.28	.22	461
(58) 5. I often forget what the teacher told us to do next.	Y=1;N=2	1.64	.48	.42	459
(59) 6. It is easy for me to stand up in front of the class and tell them something.	Y=2;N=1	1.44	.50	.32	461
(60) 7. I often do things without thinking.	Y=1;N=2	1.55	.50	.31	458
(61) 8. I get my work done on time.	Y=2;N=1	1.72	.45	.35	460
(62) 9. I sometimes copy from my friends.	Y=1;N=2	1.67	.47	.30	461
(63) 10. Fairly often I give up because I don't understand something.	Y=1;N=2	1.68	.47	.43	459

Liddle Learner Self Concept
(Revised from Little's Instrument)
(Continued)

Item	Scoring	Mean	SD	R(IT)	N
(64) 11. I often make mistakes because I did not listen carefully.	Y=1;N=2	1.50	.50	.34	461
(65) 12. I try to be careful about my work.	Y=2;N=1	1.92	.26	.25	461
(66) 13. I get scared when I'm called on in class.	Y=1;N=2	1.69	.46	.36	460
(67) 14. I find it hard to remember things.	Y=1;N=2	1.74	.44	.42	460
(68) 15. I usually understand a story the first time I read it.	Y=2;N=1	1.75	.43	.30	461
(69) 16. I do well on tests.	Y=2;N=1	1.73	.44	.42	459
(70) 17. I feel good about my school work.	Y=2;N=1	1.74	.44	.41	460
(71) 18. Often I don't understand what is going on in class.	Y=1;N=2	1.70	.46	.41	459
(72) 19. I have trouble learning.	Y=1;N=2	1.84	.37	.42	461
(73) 20. I solve problems quite easily.	Y=2;N=1	1.72	.45	.33	460
(74) 21. Most kids are smarter than I am.	Y=1;N=2	1.58	.49	.40	461
(75) 22. I often know the answer before the rest of the class.	Y=2;N=1	1.53	.50	.23	461
(76) 23. I can figure things out for myself.	Y=2;N=1	1.87	.33	.32	461
(77) 24. I get good grades easily.	Y=2;N=1	1.47	.50	.31	459

Liddle Learner Self Concept
(Revised from Little's Instrument)
(Continued)

Item	Scoring	Mean	SD	R(IT)	N
(78) 25. I find it easy to get along with my classmates.	Y=2;N=1	1.85	.36	.28	458
(79) 26. I like the kids in this class very much.	Y=2;N=1	1.84	.36	.22	460
(80) deleted					
(81) 27. I am an important person to my classmates.	Y=2;N=1	1.59	.49	.30	459
(82) 28. My classmates like me.	Y=2;N=1	1.88	.33	.34	458
(83) deleted					
(84) 29. I find it hard to talk to classmates.	Y=1;N=2	1.84	.36	.27	460
(85) 30. I feel ~~life~~ lost out of things in class.	Y=1;N=2	1.80	.39	.38	460
(86) deleted					

APPENDIX 4

(GWSR)

Spring 1974

GROUT SELF-RELIANCE SCALE
INDEPENDENCE OF TEACHER

7th and 8th Grades

Crombach's Alpha: .74; Homogeneity Ratio: .22; $\bar{x}$ = 34.84; sd = 6.08

Item	Scoring	$\bar{x}$	sd	R(IT)	N
(24) 1. I would rather do what the teacher tells me than think of things to do on my own.	5-1	3.27	1.20	.37	463
(25) 2. I usually like to choose for myself which topics to study.	1-5	4.05	.95	.26	463
(26) 3. I need the teacher to explain how to do assignments.	5-1	3.24	1.09	.45	462
(27) 4. Whenever the teacher tells me to keep busy on my own, I'm lost and don't know what to do.	5-1	4.00	.96	.48	463
(28) 5. I usually have no trouble thinking up assignments on my own.	1-5	3.43	1.05	.34	462
(29) 6. I usually cannot get started on a project until I get some directions from my teacher.	5-1	3.54	1.17	.56	462
(30) 7. If I have a report to do, I'd rather have the teacher tell me how to go about it.	5-1	3.40	1.20	.51	463
(31) 8. I'd rather figure out my own ways of doing an assignment.	1-5	3.28	1.18	.48	463
(32) 9. I can get my work done on time without the teacher reminding me.	1-5	3.43	1.16	.23	463
(33) 10. I wish I could get more help from the teachers in school.	5-1	3.20	1.15	.29	463

APPENDIX 5

(JOCOMP)

MAROLLA PERSONAL COMPETENCY SCALE.

Homogeneity Ratio: 20, Crombach's Alpha: 64,

Items	Scoring	Percent High	Mean	SD	R(IT)	N
(4) 1. There are a lot of things about myself that I'd like to change but I can't.	5-1		2.78	1.42	.30	470
(5) 2. I often feel that it's no use trying too hard.	5-1		3.78	1.26	.33	470
(7) 3. I feel like other kids push me around a lot.	5-1		3.78	1.40	.36	470
(8) 4. Very often I can't control what happens to me.	5-1		3.30	1.40	.35	470
(11) 5. I have trouble doing things that I think are right.	5-1		3.44	1.36	.34	470
(12) 6. If I have a problem with my parents or teachers or friends I can usually solve it.	1-5		3.59	1.25	.31	470
(13) 7. I seem to be the kind of person that has more bad luck than good luck.	5-1		3.51	1.32	.44	470

APPENDIX 6

(JOLGS)

MAROLLA LOOKING GLASS SELF SCALE

Homogeneity Ratio: 30, Crombach's Alpha: 81,

Items	Scoring	Percent High	Mean	SD	R(IT)	N
(15) 8. Other kids make me feel like I'm not good enough.	5-1		3.62	1.41	.58	470
(17) 9. I am popular with kids my own age.	1-5		3.67	1.12	.46	470
(19) 10. My friends have no confidence in me.	5-1		3.88	1.21	.47	470
(20) 11. I whsh other students had more respect for me.	5-1		2.89	1.31	.41	470
([illegible]) 12. Other people think I'm pretty smart and can figure things out well.	1-5		3.61	1.11	.40	470
(22) 13. I'm satisfied with the way most people treat me.	1-5		3.63	1.24	.52	470
(23) 14. I feel that my friends think I am inportant.	1-5		3.48	1.16	.51	470
(24) 15. Too foten my friends don't pay any attention to me.	5-1		3.65	1.25	.50	470
(25) 16. Other people like being around me.	1-5		3.66	1.02	.60	470
(26) 17. People seem to get mad (irritated) at me a lot.	5-1		3.58	1.18	.50	470

APPENDIX 7

(SD/EVA-SD/POT)

SEMANTIC DIFFERENTIAL MEASURING EVALUATIVE AND POTENCY DIMENSIONS OF SELF-ESTEEM*
FALL 1973
(7th & 8th graders)

I
Evaluative Dimension

(SD/EVA)

Crombach's Alpha: .6[illegible] Homogeneity Ratio: .30

Item	Scoring	Mean	SD	Item Total r	N
1. Good-Bad	5-1	3.58	.69	.44	479
3. Nice-Awful	5-1	3.92	.77	.50	479
5. Dishonest-Honest	1-5	3.74	.89	.36	479
6. Generous-Greedy	5-1	3.79	.83	.39	479
9. Pleasant-Unpleasant	5-1	3.92	.83	.49	479

II
Potency Dimension

(SD/POT)

Crombach's Alpha: .63; Homogeneity Ratio: .25

Item	Scoring	Mean	SD	Item Total r	N
2. Weak-Strong	1-5	3.65	.87	.46	479
4. Follower-Leader	1-5	3.21	.98	.34	479
7. Unsure-Confident	1-5	3.66	1.03	.40	479
8. Active-Passive	5-1	4.21	.99	.28	479
10. Powerful-Powerless	5-1	3.72	.86	.43	479

*7th and 8th grades
5th grade = Evaluation .64 and Potency .45 (Crombach's Alpha)
6th grade = Evaluation .68 and Potency .53 (Crombach's Alpha)

APPENDIX 8

(ATS)

ATTITUDE TOWARD SCHOOL
(Revised from Joel Weiss, 1973)

Homogeneity Ratio: .29; Crombach's Average: .86;

Items	Scoring	Percent High	Mean	SD	R(IT)	N
(46/1) 47. I try to think of excuses to avoid school work.	5-1		3.79	1.31	.42	473
(47/2) 48. I am really interested in my school work.	1-5		3.69	1.19	.56	473
(48/3) 49. I am learning useful things in school.	1-5		4.21	1.02	.43	473
(49/4) 50. Each morning I look forward to coming to school.	1-5		3.35	1.47	.60	473
(/5) 51. I feel like skipping school whenever there is something else I would rather do.	1-5		3.60	1.49	.32	473
(51/6) 52. I feel good when I am at school.	1-5		3.52	1.22	.63	473
(52/7) 53. It is hard for me to be happy at school.	5-1		3.86	1.25	.53	473
(53/8) 54. I usually lose interest in my studies after the first few days of school.	5-1		3.79	1.28	.48	473
(54/9) 55. I would like to go to school all year long.	1-5		1.95	1.40	.30	473
(55/10) 56. I think kids have it rough in school.	5-1		3.31	1.31	.42	473
(56/11) 57. School work is usually boring to me.	5-1		3.28	1.37	.64	473
(57/12) 58. I would like to quit school.	5-1		4.29	1.15	.57	473

ATTITUDE TOWARD SCHOOL
(continued)

Items	Scoring	Percent High	Mean	SD	R(IT)	N
(58/13) 59. My school is like a jail.	5-1		4.04	1.33	.62	473
(59/14) 60. I feel terrible each morning when I think of going to school.	5-1		3.82	1.39	.65	473
(60/15) 61. I have more fun at school than I do at home.	1-5		2.61	1.45	.30	473

APPENDIX 9

(ATT)

ATTITUDE TOWARD TEACHER
(Revised from Joel Weiss, 1973)

Homogeneity Ratio: .32; Crombach's Alpha: .87;

Items	Scoring	Percent High	Mean	SD	R(IT)	N
(61/1) 62. Only "teacher's pet" ask questions and take part in classroom discussion.	5-1		4.05	1.29	.40	472
(62/2) 63. Teachers talk too much.	5-1		3.15	1.45	.55	472
(63/3) 64. I like all my teachers.	1-5		3.24	1.47	.53	472
(64/4) 65. I am afraid to ask the teacher when I do not understand something.	5-1					
(65/5) 66. Teachers use too many big words.	5-1		3.72	1.30	.31	472
(66/6) 67. Teachers talk about important things most of the time.	1-5		3.53	1.26	.35	472
(67/7) 68. Teachers are too strict in school.	5-1		3.42	1.33	.52	472
(68/8) 69. Most teachers try to be fair with students.	1-5		3.95	1.26	.56	472
(69/9) 70. Teachers give too many assignments.	5-1		3.31	1.35	.54	472
(70/10) 71. Teachers are pretty good at knowing what students like to do.	1-5		3.54	1.25	.61	472
(71/11) 72. Many teachers enjoy giving students a hard time.	5-1		3.48	1.39	.58	472
(72/12) 73. Most of the time teachers make sure I always understand what they want me to do.	1-5		3.74	1.25	.52	472

ATTITUDE TOWARD TEACHER
(Revised from Joel Weiss, 1973)
(continued)

Items	Scoring	Percent High	Mean	SD	R(IT)	N
(73/13) 74. Teachers usually make school work interesting.	1-5		3.53	1.30	.63	472
(74/14) 75. Most teachers really explain things well.	1-5		3.81	1.20	.61	472
(75/15) 76. Teachers usually take an interest in my own ideas.	1-5		3.53	1.26	.64	472

appendix 10

(DILAL)

SPRING 1974

DILLON FOUR-ITEM STUDENT SCHOOL ALIENATION SCALE
7th and 8th Grades

Crombach's Alpha: .52; Homogeneity Ratio: .22; $\overline{x} = 9.22$; sd = 2.01

Item	Scoring	Mean	SD	R(IT)	N
(46) 1. I can usually make the kind of progress or grades my teachers expect.	Y=3;N=1; D.know=2	2.50	.65	.30	463
(47) 2. I just do not think I can do what is expected of me in this school.	Y=1;N=3; D.know=2	2.41	.77	.44	463
(48) 3. When I really want to accomplish something in school I can do it if I try.	Y=3;N=1; D.know=2	Deleted			
(49) 4. Sometimes, even when I try my hardest I can't do my school work well.	Y=1;N=3; D.know=2	2.16	.88	.24	463
(50) 5. I can't really do as well in school as my teachers expect me to do.	Y=1;N=3; D.know=2	2.16	.82	.29	462

APPENDIX 11

(GORDON)

GORDON'S COMPETENCY SCALE

Homogeneity Ratio: .32; Crombach's Alpha .70; Average Item r:

Items	Scoring	Percent High	Mean	SD	R(IT)	N
(37) 24. I see myself as being strong and full of energy.	1-5		3.86	1.14	.43	469
(38) 25. I am able to get along with other people.	1-5		4.21	1.01	.41	469
(39) 26. Compared to kids my age, I know a lot about things.	1-5		3.95	1.01	.49	469
(40) 27. I am able to do most things pretty well.	1-5		4.15	.87	.51	469
(41) 28. I'm pretty smart; I can use my head and figure things out pretty well.	1-5		3.90	1.04	.46	469

APPENDIX 12

(SOURCE)

MAROLLA SOURCE OF SELF-ESTEEM SCALE

Homogeneity Ratio:.19, Crombach's Alpha: 58,

Items	Scoring	Percent High	Mean	SD	R(IT)	N
(27) 18. I usually stop doing something I like to do if my friends laugh at me for it.	1-5		2.49	1.38	.36	470
(28) 19. I usually will go along with what the group does even if I don't agree with it.	1-5		2.67	1.39	.36	470
(30) 20. It's pretty hard for other people to hurt my feelings.	5-1		3.04	1.35	.23	469
(31) 21. I worry a lot about whether my friends like me or not.	1-5		2.93	1.43	.36	469
(32) 22. Being well liked is more important to me than just about anything.	1-5		3.04	1.35	.29	469
(36) 23. I change a lot of my beliefs and opinions depending on who I am with.	1-5		2.53	1.33	.30	469

APPENDIX 13
(SOCDES)

Fall 1973
7th and 8th Graders

LUNNEBORG-LUNNEBORG CHILDREN'S SOCIAL DESIRABILITY SCALE

Crombach's Alpha= .68; Homogeneity Ratio= .10; $\overline{x}$ = 25.06; sd = 3.1

Item	Scoring	Mean	SD	R(IT)	N
(1) 11. I fight with my family.	Y=1;N=2	1.60	.49	.26	479
(2) 12. I like school.	Y=2;N=1	1.77	.42	.32	479
(3) 13. At times I feel like saying bad words..	Y=1;N=2	1.15	.36	.33	479
(4) 14. Sometimes I feel like doing something bad.	Y=1;N=2	1.25	.43	.34	479
(5) 15. I like to work hard.	Y=2;N=1	1.64	.48	.29	479
(6) 16. I like to read about history.	Y=2;N=1	1.47	.51	.25	479
(7) 17. I say mean things about others when they are not around.	Y=1;N=2	1.69	.46	.29	479
(8) 18. I am well-behaved in school.	Y=2;N=1	1.68	.47	.24	479
(9) 19. I am sometimes jealous of someone in my family.	Y=1;N=2	1.61	.49	.21	479
(10) 20. I like to read about science.	Y=2;N=1	1.53	.50	.25	479
(11) 21. When I am sick I am glad to see a doctor.	Y=2;N=1	1.49	.50	.20	479
(12) 22. If other children are giving a party, they invite me.	Y=2;N=1		deleted		
(13) 23. I like to s~~p~~care people.	Y=1;N=2		deleted		
(14) 24. I have enemies who want to hurt me.	Y=1;N=2	1.71	.45	.18	479

LUNNEBORG-LUNNEBORG CHILDREN'S SOCIAL DESIRABILITY SCALE
(continued)

Item	Scoring	Mean	SD	R(IT)	N
(15) 25. I would like to be a leader when I grow up.	Y=2;N=1	deleted			
(16) 26. I sometimes want to run away from home.	Y=1;N=2	1.53	.50	.41	479
(17) 27. When mother says to do something, I try to get out of it.	Y=1;N=2	1.56	.50	.32	479
(18) 28. Sometimes I feel like throwing and breaking things.	Y=1;N=2	1.48	.50	.36	479
(19) 29. I like to take a bath.	Y=2;N=1	1.83	.37	.25	479
(20) 30. I make friends as quickly as others do.	Y=2;N=1	deleted			

APPENDIX 14

(SCHSUC)

SCHOOL SUCCESS: Criteria for Self-Evaluation of School Work

Interview Item: 7-8th graders, all schools, Winter 1974

Q: "How do you know when you have done well in school?"

Responses of all types were evoked, categorized, and numbered according to the order in which they were given:

EXTERNAL source (report card, grades, teacher, other)

INTERNAL source (one's self, one's own deed or effort, other)

Q: "Finally, which way is the most important to you?"

A score of 2 was assigned to an "internal" response here,

and a score of 1 was assigned to an "external" response.

APPENDIX 15

(IQ - COMPOS - NATLPC)

SCHOLASTIC HIGH SCHOOL PLACEMENT EXAM and IOWA TEST OF BASIC SKILLS

not included here

APPENDIX C

SAMPLE
DESCRIPTIVE STATISTICS

APPENDIX C

June 1974

DESCRIPTION OF KANSAS CITY SAMPLE FOR OPEN SCHOOL RESEARCH

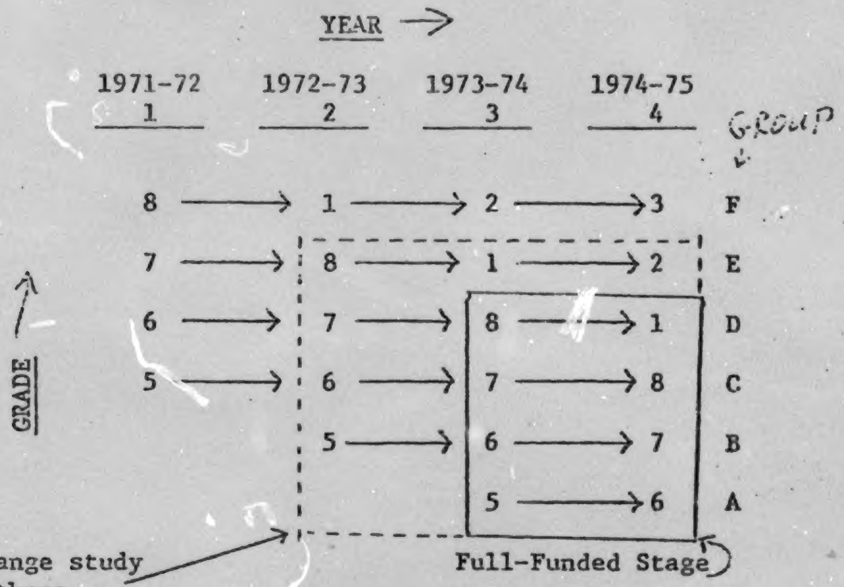
1. Year 1--Pilot Stage (I) 1971-1972 school term
2. Year 2--Pilot Stage (II) 1972-1973 school term
3. Year 3--Full-Funded Stage (I) 1973-1974 school term
4. Year 4--Full-Funded Stage (II) 1974-1975 " "

SCHOOL N (Beginning of Year)

	1971-72 Year 1	1972-73 Year 2	1973-74 Year 3	1974-75 Year 4
EXPERIMENTAL SCHOOLS:				
Loretto	0	72	87	40
St. Louis	0	131	115	69
Blessed Sacrament, Mo.	✓	141	124	72
St. Therese	0	134	100	62
Fr. Benedict Justice	✓	127	106	69
OPEN TOTALS		605	532	312
COMPARISON SCHOOLS:				
St. Joseph	✓	0	0	0
St. Rose	0	38	0	0
Blessed Sacrament, Kansas	0	120	177	103
St. Augustine	0	0	121	69
TRADITIONAL TOTALS		158	298	172
GRAND TOTALS		763	830	484

STUDENT'S GROUP NUMBER

(traces years in our study and progression through grades)



1971-72 1	1972-73 2	1973-74 3	1974-75 4	GROUP
8	1	2	3	F
7	8	1	2	E
6	7	8	1	D
5	6	7	8	C
	5	6	7	B
		5	6	A

Some 3-year change study possible with these

Code: 5-8=Elementary Grade Level

1-3=High School Grade Level

0=Not in school or not in study

APPROXIMATE number of students on IBM Cards 1200

From year 2, grades 5-8	763	
From year 3, grades 5-8		830
In study in both year 2 and 3	393	
In study only year 2, not year 3	370	370
TOTAL		1200

Students with ID code numbers 0001-0754 were in study year 2 (1972-73).

Students with ID code numbers 0755-1224 began in our study year 3 (1973-74).

LONGITUDINAL N (students followed over 2 or more years)

	Elementary School Level			High School Level*		
	Years 2&3	Years 3&4	Years 2-3-4	Year 3	Year 4 (est.)	Total (est.)
GRADES	x-7-8-x x-6-7-x x-5-6-x	x-x-7-8 x-x-6-7 x-x-5-6	x-6-7-8 x-5-6-7	x-8-1 (-2)	x-x-8-1	x-x-1-2
Loretto	40	40	11	20	25	45
St. Louis	68	69	37	14	15	29
Blessed Sacrament, Missouri	88	72	47	31	30	61
St. Therese	64	62	38	10	10	20
Benedict Justice	68	69	39	16	14	30
OPEN TOTALS:	328	312	172	91	94	185
St. Joseph	0	0	0	0	0	0
St. Rose	0	0	0	0	0	0
Blessed Sacrament, Kansas	65 (19 fr. S.R.)	103	13 (fr. S.R.)	50	35	85
St. Augustine	0	69	0	0	20	20
TRADITIONAL TOTALS:	65	172	13	50	55	105
GRAND TOTALS:	393	484	185	141 Freshmen	149 Freshmen	290 Fresh+Soph

* at: Loretto
Hogan
Lillis
Ward

YEAR 2, 1972-1973

School N (Beginning of Year)

School	Grade 5	6	7	8	Total
Loretto	0	17	29	26	72
St. Louis	34	31	33	33	131
Blessed Sacrament, Missouri	31	37	38	35	141
St. Therese	37	38	34	25	134
Benedict Justice	29	32	35	31	127
OPEN TOTALS:	131	155	169	150	605
St. Joseph	0	0	0	0	0
St. Rose	19	19	0	0	38
Blessed Sacrament, Kansas	0	0	57	63	120
St. Augustine	0	0	0	0	0
TRADITIONAL TOTALS:	19	19	57	63	158
GRAND TOTALS:	150	174	226	213	763

YEAR 3, 1973-1974

School N (Beginning of Year)

	Grade				Avail.	
School	5	6	7	8	9th	Total
Blessed Sacrament, Missouri	21	29	36	38	31	124
Benedict Justice	23	28	26	29	16	106
St. Therese	27	20	26	27	10	100
St. Louis	25	27	33	30	14	115
Loretto	0	22	28	37	20	87
OPEN TOTALS:	96	126	149	161	91	532
Blessed Sacrament, Kansas	34	35	58	50	50	177
St. Augustine	31	23	31	36	0	121
TRADITIONAL TOTALS:	65	58	89	86	50	298
GRAND TOTALS:	161	184	238	247	141	830

YEAR 3, 1973-1974

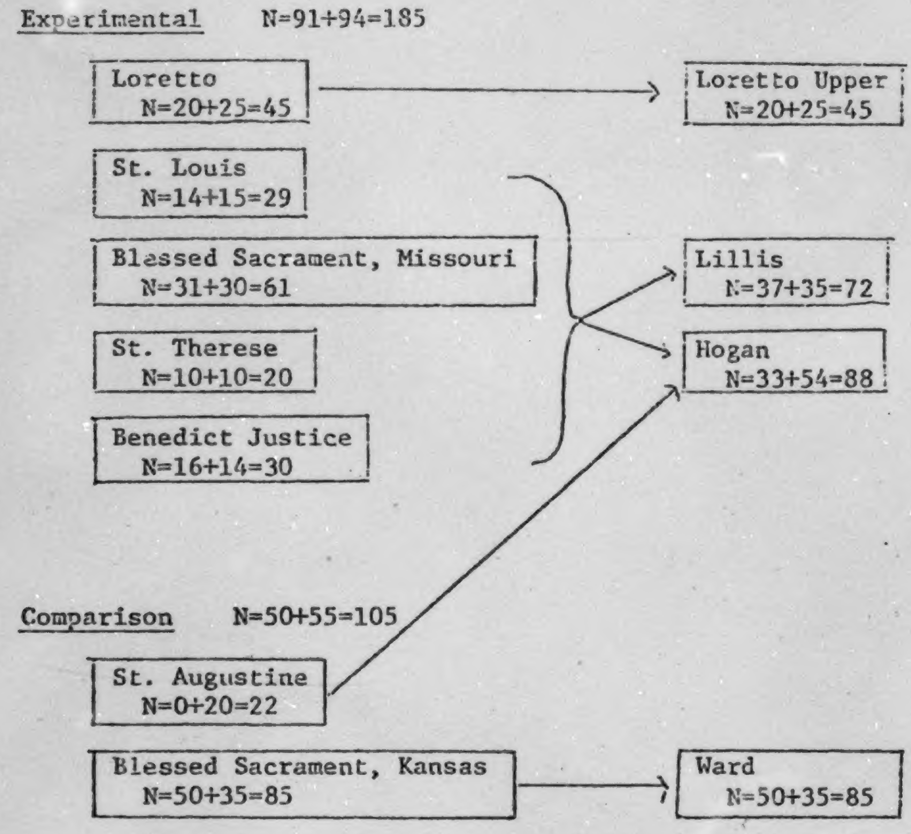
School N (End of Year)

School	Grade 5	 6	 7	 8	Total Students	Total Families
Loretto	0	21	27	35	83	81
St. Louis	25	26	3[illegible]	30	114	86
St. Therese	26	19	26	26	97	62
Blessed Sacrament, Missouri	21	29	36	37	123	89
Benedict Justice	23	28	25	27	103	74
OPEN TOTALS:	95	123	147	155	520	392
St. Augustine	30	22	30	35	117	83
Blessed Sacrament, Kansas	32	33	57	48	170	128
TRADITIONAL TOTALS:	62	55	87	83	287	211
GRAND TOTALS:	157	178	234	238	807	603

23 dropped out of study from Nov. '73

PREDOMINANT HIGH SCHOOL FLOW

*N=141+149=290



(*N indicates graduates entering high school Year 3, plus estimated graduates entering high school Year 4, and their TOTAL.)

Year 4: School N's--#Students Continuing from 1973-74
Sept.16, 1974
(#dropouts from last spring in parentheses-15% ave. attrition)

	Total (6,7,8)	6th	7th	8th	7th & 8th
LOR	40 (8)	X	16 (5)	24 (3)	40 (8)
ST	62 (9)	20 (6)	18 (1)	24 (2)	42 (3)
BJ	69 (8)	20 (3)	26 (2)	23 (3)	49 (5)
SM	141 (29)	36 (10)	49 (6)	56 (13)	105 (19)
(SL)	(69 (14)	(20 (4)	(23 (3)	(26 (7)	(49 (10)
(BSM)	(72 (14)	(16 (5)	(26 (3)	(30 (6)	(56 (9)
SA	69 (13)	25 (5)	18 (4)	26 (4)	44 (8)
BSK	103 (19)	28 (4)	27 (6)	48 (9)	75 (15)
OPEN TOTALS	312 (54)	76 (19)	109 (14)	127 (21)	236 (35)
TRAD TOTALS	172 (32)	53 (9)	45 (10)	74 (13)	129 (23)
GRAND TOTALS	484 (86)	129 (28)	154 (24)	201 (34)	355 (58)

(+ 236 now in 9th Grade.)

APPENDIX D

FAMILY INTERVIEW
AND INSTRUMENT ATTRIBUTES

PARENT INTERVIEW, PART II
Occupational Primacy Not Important
(Questions 1-6)

October 1, 1974
Mothers and Fathers Combined--All Schools
N = 305

Cronbach's Alpha: 0.686; Homogeneity Ratio: 0.271; Mean: 15.568; SD: 3.738

Item	Scoring	Mean	SD	R(IT)	N
1. The most important thing for a parent to do is to help his children get further ahead in the world than he did.	1-4	2.054	1.078	0.558	304
2. The most important qualities of a real man are determination and driving ambition.	1-4	2.473	1.089	0.378	303
3. The most important purpose of the public schools is to prepare people for occupational success.	1-4	2.303	0.912	0.393	300
4. The best way to judge a man is by his success in his occupation.	1-4	3.013	0.931	0.554	305
5. The job should come first, even if it means sacrificing time from recreation.	1-4	2.559	1.111	0.394	304
6. Americans put too much stress on occupational success.	1-4*	3.164	0.832	0.234	261

*Reversed

BB

PARENT INTERVIEW, PART II
Mastery Over Environment
(Questions 7-13)

October 1, 1974
Mothers and Fathers Combined--All Schools
N=308

Cronbach's Alpha: 0.642; Homogeneity Ratio: 0.236; Mean: 21.330; SD: 2.804

Item	Scoring	Mean	SD	R(IT)	N
7. Planning only makes a person unhappy since your plans hardly ever work out anyhow.	1-4	3.214	0.905	0.444	308
8. When a man is born, the success he's going to have is already in the cards so he might as well accept it and not fight against it.	1-4	3.686	0.764	0.429	304
9. Nowadays, with world conditions the way they are, the wise person lives for today and lets tomorrow take care of itself.	1-4	3.353	0.910	0.338	306
10. Even when teenagers get married, their main loyalty still belongs to their fathers and mothers.	1-4	3.616	0.755	0.354	307
11. When the time comes for a boy to take a job, he should stay near his parents, even if it means giving up a good job opportunity.	1-4	3.769	0.621	0.347	308
12. Nothing in life is worth the sacrifice of moving away from your parents.	1-4	3.691	0.679	0.342	308
13. The best kind of job to have is one where you are part of an organization all working together even if you don't get individual credit.		DELETED			

Mastery Over Environment (continued)

Item	Scoring	Mean	SD	R(IT)	N
14. It's silly for a teenager to put money into a car when the money could be used to get started in business or for an education.		DELETED			
15. All I want out of life in the way of a career is a secure, not too difficult job, with enough pay to afford a nice car and eventually a home of my own.		DELETED			

CC

PARENT INTERVIEW, PART II
Trust of Parents in Others
(Questions 16-21)

October 1, 1974
Mothers and Fathers Combined—All Schools
N = 305

Cronbach's Alpha: 0.746; Homogeneity Ratio: 0.334; Mean: 16.642; SD: 3.707

Item	Scoring	Mean	SD	R(IT)	N
16. It is not good to let your relatives know everything about your life, for they might take advantage of you.	1-4	2.538	1.019	0.576	304
17. It is not good to let your friends know everything about your life, for they might take advantage of you.	1-4	2.278	1.043	0.627	304
18. Most people will repay your kindness with ingratitude.	1-4	3.120	0.967	0.516	303
19. Most people are fair and do not try to get away with something.	1-4*	3.036	0.763	0.398	261
20. People help persons who have helped them not so much because it is right but because it is good business.	1-4	2.637	0.947	0.445	305
21. You can only trust people whom you know well.	1-4	3.031	0.805	0.338	261

* Reversed

DD

PARENT INTERVIEW, PART II
Activism of Parents
(Questions 22-26)

October 1, 1974
Fathers and Mothers Combined--All Schools
N=302

Cronbach's Alpha: 0.594; Homogeneity Ratio: 0.233; Mean: 16.611; SD: 2.479

Item	Scoring	Mean	SD	R(IT)	N
22. Making plans only brings unhappiness because the plans are hard to fill.	1-4	3.394	0.803	0.340	320
23. It doesn't make much difference if the people elect one or another candidate for nothing will change.	1-4	3.516	0.715	0.357	298
24. The secret of happiness is not expecting too much out of life, and being content with what comes your way.	1-4	3.089	1.012	0.407	301
25. It is important to make plans for one's life and not just accept what comes.	1-4*	3.578	0.666	0.436	256
26. It is important to know clearly in advance your plans for the future.	1-4*	3.033	0.773	0.247	250

* Reversed

EE

PARENT INTERVIEW, PART II
Independent of Relatives
(Questions 27-29)

October 1, 1974
Mothers and Fathers Combined--All Schools
N=305

Cronbach's Alpha: 0.492; Homogeneity Ratio: 0.245; Mean: 11.003; SD: 1.348

Item	Scoring	Mean	SD	R(IT)	N
27. When looking for a job, a person ought to find a position in a place located near his parents, even if that means losing a good opportunity elsewhere.	1-4	3.796	0.599	0.262	304
28. When you are in trouble, only a relative can be depended upon to help you out.	1-4	3.603	0.676	0.348	305
29. If you have the chance to hire an assistant in your work, it is always better to hire a relative than a stranger.	1-4	3.603	0.636	0.322	305

FF

PARENT INTERVIEW, PART II
Activism in Child-Rearing
(Questions 30-34)

October 1, 1974
Mothers and Fathers Combined—All Schools
N = 302

Cronbach's Alpha: 0.681; Homogeneity Ratio: 0.310; Mean: 18.086; SD: 2.395

Item	Scoring	Mean	SD	R(IT)	N
30. Children should learn that planning only makes a person unhappy since your plans hardly ever work out anyway.	1-4	3.659	0.681	0.476	301
31. Children should learn early there isn't much you can do about the way things are going to turn out in life.	1-4	3.599	0.778	0.563	301
32. Nowadays the wise parent will teach the child to live for today and let tomorrow take care of itself.	1-4	3.611	0.687	0.450	301
33. Children should be taught not to expect too much out of life so they won't be disappointed.	1-4	3.397	0.893	0.362	302
34. Children should be taught that when a man is born the success he's going to have is already in the cards, so he might as well accept it and not fight against it.	1-4	3.817	0.518	0.372	303

GG

PARENT INTERVIEW, PART II
Accomplishments in Child-Rearing Not Important
(Questions 35-39)

October 1, 1974
Mothers and Iathers Combined--All Schools
N = 302

Cronbach's Alpha: 0.668; Homogeneity Ratio: 0.296; Mean: 10.652; SD: 3.109

Item	Scoring	Mean	SD	R(IT)	N
35. Above all, parents ought to try to help their children get further ahead than they were able to get.	1-4	2.079	1.087	0.459	303
36. A child should be taught from infancy to take the greatest pride in doing things well.	1-4	1.278	0.658	0.287	302
37. Children ought to learn to try hard to come out on top in games and sports.	1-4	2.182	0.948	0.458	302
38. A mother ought to teach her child to try to do everything he does better than anyone else.	1-4	2.665	0.952	0.496	300
39. Children should be taught that the job comes first, even if it means giving up most of the fun.	1-4	2.447	1.038	0.416	303

HH

PARENT INTERVIEW, PART II
Trust in Child-Rearing
(Questions 40-42)

October 1, 1974
Mothers and Fathers Combined—All Schools
N = 289

Cronbach's Alpha: 0.622; Homogeneity Ratio: 0.356; Mean: 8.455; SD: 2.134

Item	Scoring	Mean	SD	R(IT)	N
40. Children should be taught that in these days a person really doesn't know whom he can count on.	1-4	2.980	0.977	0.470	287
41. Children should learn that if you don't look out for yourself people will take advantage of you.	1-4	2.449	0.978	0.438	289
42. Children should learn that most people can be trusted.	1-4 *	3.024	0.867	0.390	289

* Reversed

II

PARENT INTERVIEW, PART I
Affectionate Climate
(Questions 10-14)

October 1, 1974
Mothers and Fathers Combined--All Schools
N = 306

Crombach's Alpha: 0.659; Homogeneity Ratio: 0.303; Mean: 9.937; sd: 3.590

Item	Scoring	Mean	SD	R(IT)	N
10. About how often would you say you spend time doing things with _______--like helping him/her with a job...work around the house, teaching him/her things, doing things for fun, etc.?	1-5	1.944	1.145	0.490	306
11. How often do you ask about how your child's activities have been going...like school, sports, friends, recreation, reading, etc.?	1-5	1.594	0.904	0.394	306
12. How often do you talk with ________about his/her schoolwork?	1-5	1.935	1.083	0.526	303
13. Does ________approach you with his/her problems or with concerns that are important to him/her?	1-5	2.933	1.526	0.394	299
14. When you think something is bothering your child and you ask him/her about it how does he/she react?	1-3	1.529	0.678	0.346	306
15. What about _______ brothers and sisters—How well does he/she get along with them?		DELETED			

PARENT INTERVIEW, PART I
Reward Structure
(Questions 16-21)

October 1, 1974
Mothers and Fathers Combined--All Schools
N=306

Crombach's Alpha: 0.608; Homogeneity Ratio: 0.227; Mean: 9.786; SD: 2.400

Item	Scoring	Mean	SD	R(IT)	N
16. When you are pleased with something _______ has done how often do you show that you are pleased with his/her behavior. For example, by smiling?	1-4	1.243	0.452	0.295	304
17. How often do you tell him/her it was a good thing to do when you're pleased with his/her behavior?	1-4	1.267	0.443	0.320	306
18. When you are pleased with ________ behavior, instead of telling him or showing him, how often do you promise to do something for him/her later on as a reward?	1-4	2.301	0.915	0.401	305
19. Encourage him/her to keep it up by pointing out that what he did was good for him or good for others?	1-4	1.424	0.634	0.394	306
20. Tell him/her how proud he's made you feel, or tell others about it. How often do you do that when you're pleased with his/her behavior?	1-4	1.405	0.604	0.377	304
21. Buy something for him/her or give him/her some extra money to spend?	1-4	2.144	0.911	0.351	304

PARENT INTERVIEW, PART I
Authority in the Home
(Questions 23, 25, 26, 27, 29, 30)

October 1, 1974
Mothers and Fathers Combined--All Schools
N=305

Cronbach's Alpha: 0.520; Homogeneity Ratio: 0.224; Mean: 13.380; SD: 3.854

Item	Scoring	Mean	SD	R(IT)	N
22. Which of the following statements best describes you as a parent?		DELETED			
23. How are most decisions about your child or children usually made in your family?	1-4	1.924	0.737	0.255	305
24. How much responsibility do you give them in making decisions about themselves?		DELETED			
25. Impudence in a child should be punished.	1-4	2.102	0.851	0.392	299
26. It is all right for a child to argue with an adult.	1-4*	1.703	0.770	0.370	303
27. Children must respect authority.	1-4	1.403	0.664	0.407	302
28. All parents deserve respect from their children.		DELETED			
29. It is O.K. for a child to question his parents' decisions.	1-4*	2.186	0.703	0.229	305
30. Some parents have certain rules for their sons and daughters, while others do not. For each of the following, check whether or not you have definite rules for your son or daughter.	01-10*	4.058	2.368	0.389	300

*Reversed

30. (continued)	YES	NO
1. Time to be in at night on weekends		
2. Time to be in on school nights		
3. Time spent on homework		
4. Against going around with certain boys		
5. Against going around with certain girls		
6. Clothes that are worn		
7. How the hair is worn		
8. Doing odd jobs around the house		
9. Coming straight home from school		
10. Time spent watching T.V.		

PARENT INTERVIEW, PART I
Activism in the Classroom
(Questions 40 & 41)

October 1, 1974
Mothers and Fathers Combined--All Schools

N = 301

Cronbach's Alpha: 0.643; Homogeneity Ratio: 0.490; Mean: 4.840; SD: 1.566

Item	Scoring	Mean	SD	R(IT)	N
40. How often this past school year did you visit ________ in the classroom?	1-4	2.787	1.023	0.490	303
41. How often this past school year did you meet or visit with your child's teacher?	1-4	2.053	0.785	0.490	302

Explanation of Classroom
(Question 42)

N = 285

Mean

Item	Scoring	Mean	SD	R(IT)	N
42. During any of your visits were any of the teaching methods used in the classroom clearly explained to you?	Y=1;N=2	1.154	0.361	0.000	285

Attitude Toward Classroom
(Questions 43 & 44)

N = 232

Cronbach's Alpha: 0.873; Homogeneity Ratio: 0.778; Mean: 3.107; SD: 1.329

Item	Scoring	Mean	SD	R(IT)	N
43. From the explanations provided, did the teaching impress you as being very unfavorable to very favorable?	1-4	1.517	0.670	0.778	241
44. Whether or not the teaching methods used in your child's classroom have ever been explained to you, what are your impressions?	1-4	1.590	0.738	0.778	292

Parent Interview, Part I

Control Structure & Activism

Control Structure

Let's turn to something else now.

Free Time

31. During their free time, children engage in a number of activities with a different number of individuals. With whom does (name of child) spend most of his free time? (Check appropriate responses)

____Friends (schoolmate, neighborhood, etc.)
____relatives
____causal acquaintances
____other
____don't know

(1 if chosen)
(2 if not chosen)

Schoolwork

32. How often do you require (name of child) to do schoolwork? (Check one)

(1) ____daily, including weekends
(2) ____daily, not including weekends
(3) ____required, but at no special time

33. How often do you help (name of child) with his/her schoolwork? (Check one)

(1) ____Often do
(2) ____Sometimes do
(3) ____Hardly ever do
(4) ____Never do

Parents: Activism In School/Community Settings

(Interviewer): Now I would like to ask you some questions about the community in which you are living.

Participation In Organizations

34. During the past year did you participate in any organized activities such as clubs, associations, political groups, unions or any other type of groups? (Check one)

(1) ____Yes (go to next question)
(2) ____No (Skip to question no. 36)

35. How frequently did you participate in such organized activities? (Check one, then go to next question)

(1) ____Often
(2) ____Sometimes
(3) ____Hardly ever

Participation As A Volunteer

36. During the past year, did you spend any of your time serving as a volunteer in any school/community activities? (Check one)

(1) ____Yes (go to next question)
(2) ____No (Skip to question no. 38)

37. How did you happen to become involved in such activities? Were you invited to participate or did you volunteer? (Check appropriate response, then skip to question 39.)

School Activities	Community Activities
(1) ____Invited to participate	(1) ____Invited to participate
(2) ____Volunteered	(2) ____Volunteered
(3) Both	(3) Both

38. Was it because of any of the following reasons? (Check one, then go to next question.)

(1) ____Personal/work
(2) ____Not informed/Not invited
(3) ____None of any interest
(4) ____Other____

39. Are you planning to attend or now attending any special classes this year? (Literacy training, adult education, homemaking, vocational training, college courses, etc.) (Check one)

(1) ____Not attending and no plans to attend
(2) ____Plan to take courses in the future
(3) ____Now taking classes or courses of some kind

Parent Interview, Part I
Reasons for Selecting School

46. Last, please tell me as a parent, how important you feel the following factors were related to your choice of sending (name of child) to (state name of school).

a) Social Environment (Check one)

____Very important
____Somewhat important
____Somewhat unimportant
____Not important at all

b) Special Programs/Activities (Check one)

____Very important
____Somewhat important
____Somewhat unimportant
____Not important at all

c) Smaller Classes (Check one)

____Very important
____Somewhat important
____Somewhat unimportant
____Not important at all

d) Various Types of Teaching Methods (Check one)

____Very important
____Somewhat important
____Somewhat unimportant
____Not important at all

e) Offered Better Education (Check one)

____Very important
____Somewhat important
____Somewhat unimportant
____Not important at all

f) Convenient (Check one)

____Very important
____Somewhat important
____Somewhat unimportant
____Not important at all

g) Discipline (Check one)

____Very important
____Somewhat important
____Somewhat unimportant
____Not important at all

h) Religion (Parochial Education) (Check one)

____Very important
____Somewhat important
____Somewhat unimportant
____Not important at all

(Scoring 1= very imp.
2 = somewhat imp.
3 = somewhat unimp
4 = NOT imp)

APPENDIX

STUDENT INTERVIEW SCHEDULE

STUDENT ______________________ GRADUATE OF ______________________

DATE ______________________

1. Source of feeling of competence (having done well in school)

a. report card

grades

teacher

"other other"

B. if no grades, etc., what would enable you to know you have done well?

self

other own deed

2. Do you think the school rules are reasonable? yes no

Why not?

3. Why do you observe school rules?

a. Because a rule

b. Because reasonable

4. Are you able to meet school expectations, esp, academic expections?

1. yes no 2. Were you well prepared by grade school?

yes no

5. Do you have special interest that you can relate to your school work?

yes no

A. What? B. How did you become so interested?

6. Can you solve your academic problems at Hogan? What is most difficult?

yes no ______________________

Other school [illegible]oblems? What How? In control of your life?

yes no yes no

7. What do you think about "open ed" at ____________? Help Hinder

8. How would you change the program you had at ________________?

9. Do you work on your own much? yes no

10. How do you like Hogan High?

a. A lot B. okay C. Dislike

11. What do you like about Hogan High

a. Most?

b. Least?

12. How was the adjustment from grade school?

a. Easy B. Not too hard, not too easy c. Very difficult

13. Did you find Hogan different from ____________________?

yes no

What was different?

14. Was there anything in grade school that specially helped?

yes no

What?

TEACHER BEHAVIOR RATING FORM

TEACHER________________________________DATE______________

STUDENT______________________GRADUATE OF ____________GRADE SCHOOL

1. Rate this student's confidence in himself. (Just check the appropriate category)

very low____	low____	average____	high____	above average____
1	2	3	4	5

2. Rate student's independence and self-reliance

very low____	low____	average____	high____	above ave.____
1	2	3	4	5

3. Does this student cooperate with his teachers and peers?

always____	usually____	sometimes____	seldom____	never____
5	4	3	2	1

4. How well did this student achieve in your class when he first entered Hogan?

above average____	high____	average____	below average____	very low____
5	4	3	2	1

5. How well does this student achieve in your class now?

above average____	high____	average____	below average____	very low____
5	4	3	2	1

6. Rate this student's responsibility in doing assigned work.

very low____	low____	average____	high____	above average____
1	2	3	4	5

7. Is this student responsive and willing to learn at Hogan?

never____	seldom____	sometimes____	usually____	always____
1	2	3	4	5

8. Does this student attempt to dominate or bully other students?

always____	usually____	sometimes____	seldom____	never____
1	2	3	4	5

9. Dose this student publicly brag or boast about hsi exploits?

always____	usually____	sometimes____	seldom____	never____
1	2	3	4	5

10. Does this student continually seek attention, as evidenced by such behaviors as speaking out of turn and making unnecessary noises?

always____	usually____	sometimes____	seldom____	never____
1	2	3	4	5

11. Please list this student's grade(s) in your class(es).

A=5
B=4
C=4
D=3
F=1

____

TNANK YOU

Kansas City Education Study
Teacher Questionnaire
May 1974

Dear Teacher:

Your answers to these questions are to be kept anonymous in order to encourage the most honest responses possible. The questionnaires will be collected personally by Jim Grout or Steve Dillon seven working days from now. At that point they will be mailed directly to Professor David Franks at the University of Denver who is personally responsible for guaranteeing the anonymity of this information. As soon as the questionnaire is received by Dr. Franks your name will be given a code number and then torn from the questionnaire.

All of this is for the purpose of ruling out the remotest possibility that this information could be used in any kind of evaluation of you personally. We are not interested in any particular one person's scores on these items, but in group data only--i.e. means, percentages, etc.

Thank you again for your current
and past help!

David D. Franks

David D. Franks
Principal Investigator
Kansas City Open Education Project

DDF/dk

BACKGROUND INFORMATION

Please write name here______________________________

1. School_______________ _____________________________________

2. Sex: (Circle one)
   1. male
   2. female

3. Age: (Circle one)
   1. under 20
   2. 20-25
   3. 26-30
   4. 31-35
   5. 36-40
   6. 41-45
   7. 46-50
   8. over 50

4. Race: (Circle One)
   1. Black
   2. White
   3. Other

5. Marital Status: (Circle one)
   1. Nun
   2. Single
   3. Married
   4. Other

6. Teaching Position (Circle One)
   1. Full time teacher
   2. Part time teacher
   3. Teacher's Aide, Paid
   4. Teacher's Aide, Volunteer
   5. Other volunteer
   6. Other: Please specify

7. Please circle the subjects taught on the Teacher Questionnaire.
   a. Language arts
   b. Math
   c. Science
   d. Social studies
   e. Creative arts
   f. Other

8. Which grade level are you working with most frequently (during this academic year)?
   a. 5th
   b. 6th
   c. 7th
   d. 8th

TEACHING EXPERIENCE

9. How many years have you been teaching?
(include part time and full time; count
this year as a full year) ____(place number of years here)

10. How many years have you taught full
time? ____(place number of years here)

11. a. Please circle true or false about yourself:
This is my first year teaching but I did not
start at the beginning of the year......... 1. True
2. False

b. If you answered true please write the month
you did start in this blank________________________

12. In what kind of school did you do your practice
teaching? (Circle one)
1. Traditional
2. Open
3. Open space
4. Open and open space
5. I did not do any practice teaching
6. Other: specify____

13. a. What kind of school did you teach in before you
started teaching in your current school? (Circle one)
1. Traditional
2. Open
3. Open space
4. Open and open space
5. This is my first teaching experience.
6. Other; specify____

b. If you answered any alternative but number 5 in 13a please answer
this item:
The previous experience was: 1. fulltime
2. part time

14. My professional education includes:
(Please circle) 1. No college at all
2. Some college, but no B.A. or B.S. degree
3. Teaching certificate but no college degree
4. College degree
5. Graduate work beyond B.A.
6. Master's degree or equivalent
7. Work beyond Master's
8. Ph.D.

15. (This is only for the Open school teachers.)
Not including your intraining workshops with Sheldon and Steve this year, have you taken any special training in Open Education before teaching in this school? (Please circle)

1. Yes
2. No
3. If yes, please specify____________________

16. If you are presently teaching in an Open School, have you had previous training in a traditional school?

1. Yes
2. No

17. Which setting would you personally rather teach in, assuming everything else was equal? (Circle one)

1. An open school
2. A traditional school

Here we are interested in how you would rank certain educational goals relative to each other. At first glance it may seem that this is hard to do since all of the below could be considered important. We are asking a more personal question, however--which ones just personally sound most interesting to you--or are the ones that are most meaningful to you individually.

Pick three that you would place in the "high," "middle," and "low" groups to the right and place their numbers in the spaces provided. (Within the three main categories below the order does not necessarily make any difference.)

PLEASE READ ALL OF THE BELOW BEFORE
MAKING YOUR CHOICE

1. learning how to behave properly in social situations
2. preparing the child to do well in high school
3. helping the student to reach a point where he will be able to educate himself on his own
4. helping students to enjoy learning
5. developing skills at interpersonal relationships
6. broadening his fund of general knowledge
7. developing self-reliance and autonomous decision making in children
8. preparing a student for his or her role as an adult who must adapt to the demands of his social environment
9. developing respect for authority
10. acquiring the basic skills of reading, writing and arithmetic
11. the acquisition of academic skills

1. Three highest ranked goals:
   a. place number of item here______
   b. place number of item here______
   c. place number of item here______

2. Three middle ranked goals:
   a. place number of item here______
   b. place number of item here______
   c. place number of item here______

3. Three lowest ranked goals:
   a. place number of item here______
   b. place number of item here______
   c. place number of item here______

Read each sentence below. Then, for each subject area you teach, check the line that tells how often the statement is true for students you teach.

1. In class, students must sit next to the same students.

	Always	Often	Sometimes	Seldom	Never
Language Arts..					
Math...........					
Social Studies.					
Science........					

2. The students can talk to other students while they work.

	Always	Often	Sometimes	Seldom	Never
Language Arts..					
Math...........					
Social Studies.					
Science........					

3. In class, the students can move about the room without asking me.

	Always	Often	Sometimes	Seldom	Never
Language Arts..					
Math...........					
Social Studies.					
Science........					

4. In class, I stand in front of the room and work with the class as a whole.

	Always	Often	Sometimes	Seldom	Never
Language Arts..					
Math...........					
Social Studies.					
Science........					

5. When a student is working on a lesson, the other students in my class are working on the same lesson.

	Always	Often	Sometimes	Seldom	Never
Language Arts..					
Math...........					
Social Studies.					
Science........					

6. There are several assignments the students could select, and they choose the one they want to work on.

	Always	Often	Sometimes	Seldom	Never
Language Arts..					
Math...........					
Social Studies.					
Science........					

7. A student could fall behind in his work without me finding out about it for a couple of weeks or more.

	Always	Often	Sometimes	Seldom	Never
Language Arts..					
Math...........					
Social Studies.					
Science........					

Remember this will be held Confidential!

Please consider the questions below in light of what one could reasonably expect.

1. This year at your school were you satisfied with the children's behavior? (Check one)
   1. Yes.............______
   2. No..............______
   3. Difficult to say.______

2. This year at your school were you satisfied with the children's academic achievement? (Check one)
   1. Yes.............______
   2. No..............______
   3. Difficult to say.______

Perhaps no two people ever share exactly the same ideas but usually some agreement on some level is necessary for group action. Below we are asking about the agreement necessary for effective action.

3. Do you feel that the other teachers in your school generally share and practice your views about teaching theory or practice? (Check one)

____1. Yes we all agree to a positive and remarkable extent.
____2. There is some disagreement but not enough to be too problematic for me.
____3. It's really very hard for me to say, I guess I don't really know.
____4. It would be helpful to me personally if there was more agreement here but it's not too bad.
____5. I really feel isolated from the others and feel that there has to be more agreement for me to do my job satisfactorily.

4. Do you feel that your principal understands and supports the theory and practice that you use in your teaching? (Check one)
   1. Yes.............______
   2. No..............______
   3. Don't really know______

5. Do you feel that the parents understand and support the theory and practice that you use in your teaching? (Check one)

____1. Yes, to a satisfactory extent given what one can realistically expect.
____2. No, this is a problem area in my judgment.
____3. I do not know; it's hard to judge.

6. Would you please try to estimate (in percents) how many children in your classes are so hindered by home influences that they cannot develop adequate academic skills.

Place estimated percent here______

7. Would you please try to estimate (in percents) how many children in your classes would do better in your school if they had more direction, structure and assignments.

Place estimated percent here______

Now we would like to give you an opportunity to communicate some very general things. Remember that these will be held in absolute confidence.

1. What are the largest problems you have on your job?

2. What are the major strengths of your school?

3. What are the major weaknesses of your school?

APPENDIX E

SCHOOL BY SCHOOL
ANALYSIS OF OUTCOMES

APPENDIX E

SCHOOL BY SCHOOL ANALYSIS OF OUTCOMES

This chapter presents a detailed analysis of each of the thirteen variables established as outcomes in the text (Chapt. VII). Focus is on the strength of the relationship between the score each school produces on the FLOS freedom measure and each outcome presented separately. Sixteen graphs are presented describing the degree to which mean outcome scores increase as mean scores for openness increase among the schools. For three Level IV outcomes, significant within-open school differences were not obtained though within 7 school differences were. This analysis should shed light on these and other questions derived from the last chapter.

The graphs are based on transformed (standardized) scores (to "cancel" the effect of race and sex) and must be interpreted with caution. Any analysis based on mean scores alone ignores an equally important source of variance, namely the dispersion of scores around the mean. Thus, Table 3 on pages 6 and 7 presents means, standard deviations, and z-scores to help supplement the information in the graphs.[1]

A Pearson's correlation is also presented for each graph. The correlations are naturally larger than in the Chapter VII because the Pearson correlation is an association between means and hence ignores the actual variation taken into account, for example, by the multiple r's based on individual students' scores.

---

[1] Problems arising from larger differences in variance among the school means are minimized somewhat by the "sifting" process resulting in these final 13 variables. Other variables exhibiting greater variation within the schools than between the schools were dropped from analysis.

The correlations are nonetheless useful in comparing the school openness means with school means on the standardized dependent variables, but it must be remembered that individual students' scores can not be predicted from this level of analysis.

The Pearson correlations should be utilized to help "eyeball" the data and compare one dependent variable with the other in terms of how closely they correlate with the FLOS freedom scale. Unless the standard deviations are kept in mind (see Table 3 below) these correlations and the mean score analysis in general may be misleading.

The "outcome" variables are broken into six cateogories: Program Implementation[2] (3 measures), Self-Esteem (7), Social Desirability (1), Autonomy Measures (2), Attitude Toward School and Teacher (2), and Achievement (1). The discussion below is broken into these sub-headings.

General Remarks

The most traditional school is most frequently lowest on mean scores of outcomes (see Table 1). This school ranks lowest on 9 outcomes and 3rd lowest on 6 outcomes. The more "individualized"[3] of the two traditional schools was next in terms of frequency with which outcomes were ranked low. For this school eight variables ranked 6th (next to the lowest rank) while three were ranked lowest.

---

[2] Though these meet empirical criteria set for dependent variables (see footnote 1 and previous chapter) they quite obviously do not meet conceptual standards for dependent variables. They are conceptualized here as intervening variables. Also, they differ from the observer's check list comprising the FLOS program implementation scale in that they reflect the children's subjective perception of the program. These scales can be expected to reflect the past experience and expectations of the individual more than objective openness. In a further analysis the McPartland Scale (students perception of openness) will replace the FLOS freedom as a base since the step-wise regression in the previous chapter showed it to add more explained variance with the FLOS scale.

[3] The sixth grade of this school was taught by teacher using open education methods while the 7th and 8th grades were quite structured.

On the opposite end of the continuum, the two most open schools are the ones most frequently ranking in the first and second places. However, the second most open school had twice as many first placed rankings as did the most open school.

The least open of the open schools places variables in all 7 of the rankings indicating the widest dispersion among the schools. In this regard it is similar to the third most open of the 5 experimental schools which had the second greatest dispersion.

Table 1

COMPARATIVE RANKING OF SCHOOL MEANS FOR
16 DEPENDENT VARIABLES* derived from Table IX

Schools Ranked According to FLOS Freedom Openness		Ranking						
		1st	2nd	3rd	4th	5th	6th	7th
Most Open	5	1111	1111 111	1	111			
	1	1111 1111	111	1	11	1		
	3		1	11	1111	111	111	111
	4	1	1	111 11	1111	111		
	2	11	1	1111	11	1	1111	1
	8	1	1	11	1		1111 111	111
Most Trad	6		1		11111			1111 1111

* Perception of openness scales are included here in this summary and are seen as intervening variables.

Table 2 presents the six categories of variables in the manner presented above. The degree to which variables cluster around the diagonals represents the degree to which the openness scales predict rankings on mean scores for these groupings.

The following text interprets 16 line graphs derived from school mean on the dependent variables. The FLOS freedom scale has been included in each graph for comparison purposes. Graphs presented in this section are derived from Table 3 below. Taking the 16 graphs as a whole it is striking how the diagonal measures tend to parallel the openness measures.

Student's Perception of Selected Features of School Programs

The McPartland Openness Scale was used to measure the student's perception of program implementation. It's six items have to do with freedom of seating, talking, and moving around as well as choice of assignments and "individualization" generally. According to the step-wise regressions in the previous chapter, this dimension contributed more to the prediction of the dependent variables than did any dimension of the "more objective" FLOS scale. This was true especially for the three academic achievement measures.

Schools 2 and 4[4] diverge most from the line created by the FLOS freedom dimension (See graph I). They also diverge from the teachers McPartland perception of openness and the Teacher's DISC check list for openness. When these "discrepencies" are correlated with the interview

---

[4] The schools are code-numbered along the horizontal line at the bottom of the graph. School 6 and 8 are traditional. The sample of children dealt with here are 6th through 8th, data are derived from 1973 - 1974 academic year.

Table 2

Comparative Rankings of School Means

Derived from sex-race standardized scores
Grades 6-8, All Schools, First Year Data
(Based on selected School Means)

Schools Ranked as to
Degree of Openness
According to Observer's
FLOS Freedom Dimension

		Three School Program Variables* Rank							Two Autonomy Measures Rank						
Openness Rank	School #	1st	2nd	3rd	4th	5th	6th	7th	1st	2nd	3rd	4th	5th	6th	7th
1st	5	11	1							11					
2nd	1		1		1				1		1				
3rd	3		1				11					1	1		
4th	4			1	1	1			1			1			
5th	2			11	1									11	
6th	8						1	11			1				1
7th	6					1	1	1					1		1

		Seven Self-Esteem Related Variables Rank							Two Attitude Toward School Measure Rank						
Openness Rank	School #	1st	2nd	3rd	4th	5th	6th	7th	1st	2nd	3rd	4th	5th	6th	7th
1st	5	1	1111		11					1	1				
2nd	1	1111	11			1			11						
3rd	3			1	1	11		111			1	1			
4th	4			1111	11							1	1		
5th	2			1	1		111			1			1		
6th	8		1		1	1	1111							11	
7th	6					111		1111							11

		Social Desirability Rank							Achievement Score Rank						
Openness Rank	School #	1st	2nd	3rd	4th	5th	6th	7th	1st	2nd	3rd	4th	5th	6th	7th
1st	5				1				1						
2nd	1	1										1			
3rd	3				1									1	
4th	4		1										1		
5th	2			1											1
6th	8						1				1				
7th	6							1		1					

*Schools are ranked according to observer, the three variables here have to do with studentṡ' perceptions.

data from the students it becomes clear that students' perceptions of openness is often more a function of comparative experiences than structural openness.

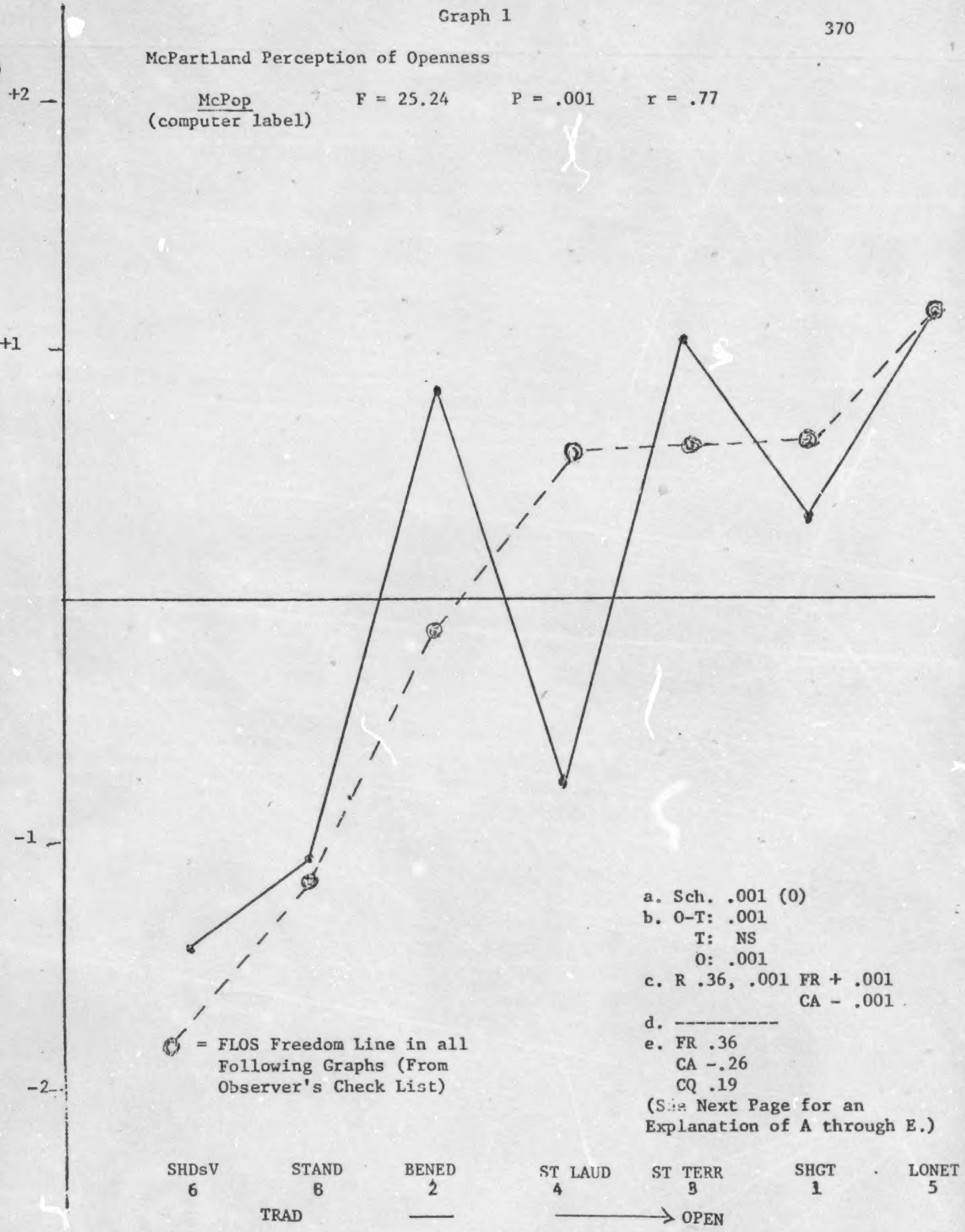
For example school 2 draws its students from a very low income-high crime rate area of the inner city. According to the interviews the children see the school as a welcomed relief from their "ghetto" life. (See the similarity between the perception of openness for school 2 and attitude toward school in graph 14.) As previous research suggests, these children are from backgrounds that do not equip them to internalize the student role (Boocock 1972:126). This is reflected in an easy going unrestricted atmosphere in this particular school.

School 4 however draws from a different population of students and the academic orientation is comparatively strong. In this case the interviews corroborate the fact that students perceived the school as less open than teachers and observers. Despite the flexibility of the curriculum and the number of opportunities to choose from, the students reported irritation over a restrictiveness that was quite independent of curriculum (the focus of the FLOS freedom dimension of the observer's check list). These irritations concerned rules, i.e. no chewing gum, uniforms, blue socks for girls, white for boys, etc. The children in the interview tended to see the school in these terms rather than the range of opportunities open to them via the curriculum. If the observers and teachers are referring to curriculum and the students are thinking about rules, the divergence in perceptions of openness is understandable. In fact, when the students were asked specifically about the availability of choices in roles, they responded identically to the observers. (See Graphs 2 and 3 below)

Graph 1

McPartland Perception of Openness

McPop (computer label) F = 25.24 P = .001 r = .77



◎ = FLOS Freedom Line in all Following Graphs (From Observer's Check List)

a. Sch. .001 (0)
b. O-T: .001
   T: NS
   O: .001
c. R .36, .001 FR + .001
   CA - .001
d. ----------
e. FR .36
   CA -.26
   CQ .19
(See Next Page for an Explanation of A through E.)

Explanation of Statistics Reported on 16 Graphs

GRAPHS OF SCHOOL MEANS

Grades 6-8, All Schools
First Year Data

STANDARDIZED SCHOOL MEANS ($\bar{X}=0, SD=1$)
Derived from scores standardized for each
sex-race strata
($\bar{X}=50$, $SD=10$)

(Broken line = FLOS Freedom Score)

The F and p at the top of the page refer to differences among all seven school means. The (r) is the correlation of the school means with the FLCS Freedom score.

Statistics in the bottom right corner refer to:

a. Level at which school type, sex, or race was significant before scores were standardized for each sex-race stratum (from Table I).

b. Level at which school was significant after scores were standardized for each sex-race stratum: between open and traditional groups, within traditional group, within open group (from Table III).

c. Stepwise regression data using three FLOS dimensions: Multiple R, level of significance, plus level of significance and direction of predictors (from Table IV).

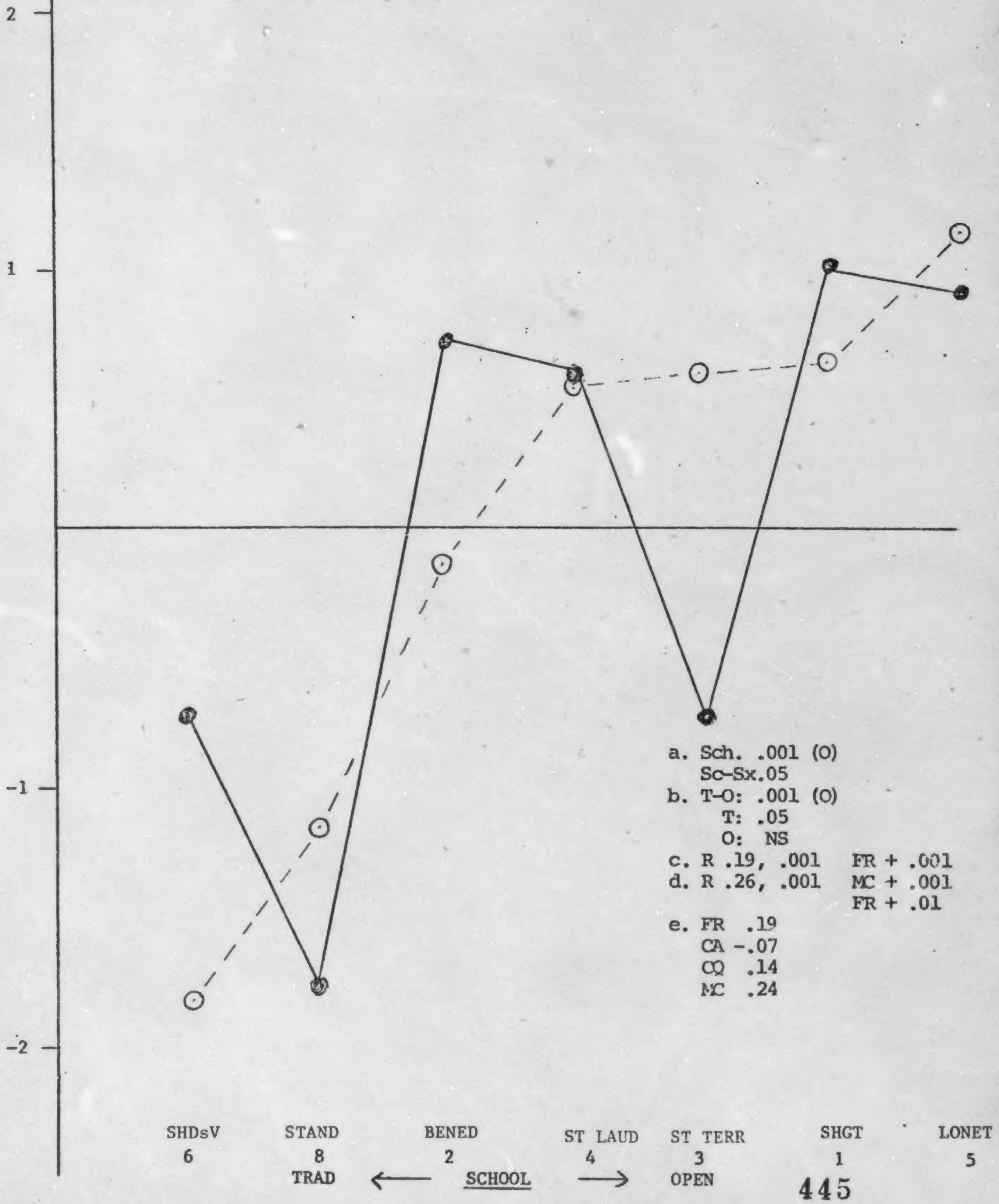
d. Stepwise regression data using three FLOS dimensions and MCPOP: Multiple R, level of significance, plus level of significance and direction of predictors (from Table V).

e. Correlations of individual scores (standardized for sex-race) with program implementation variables: FLOS Freedom, Control amount, Control Quality, McPartland Perception of Openness.

Graph 2

Time School Allows for 5 Salient Roles

SIPQ2 F=5.83 p =.001 r = .68
(positive direction)

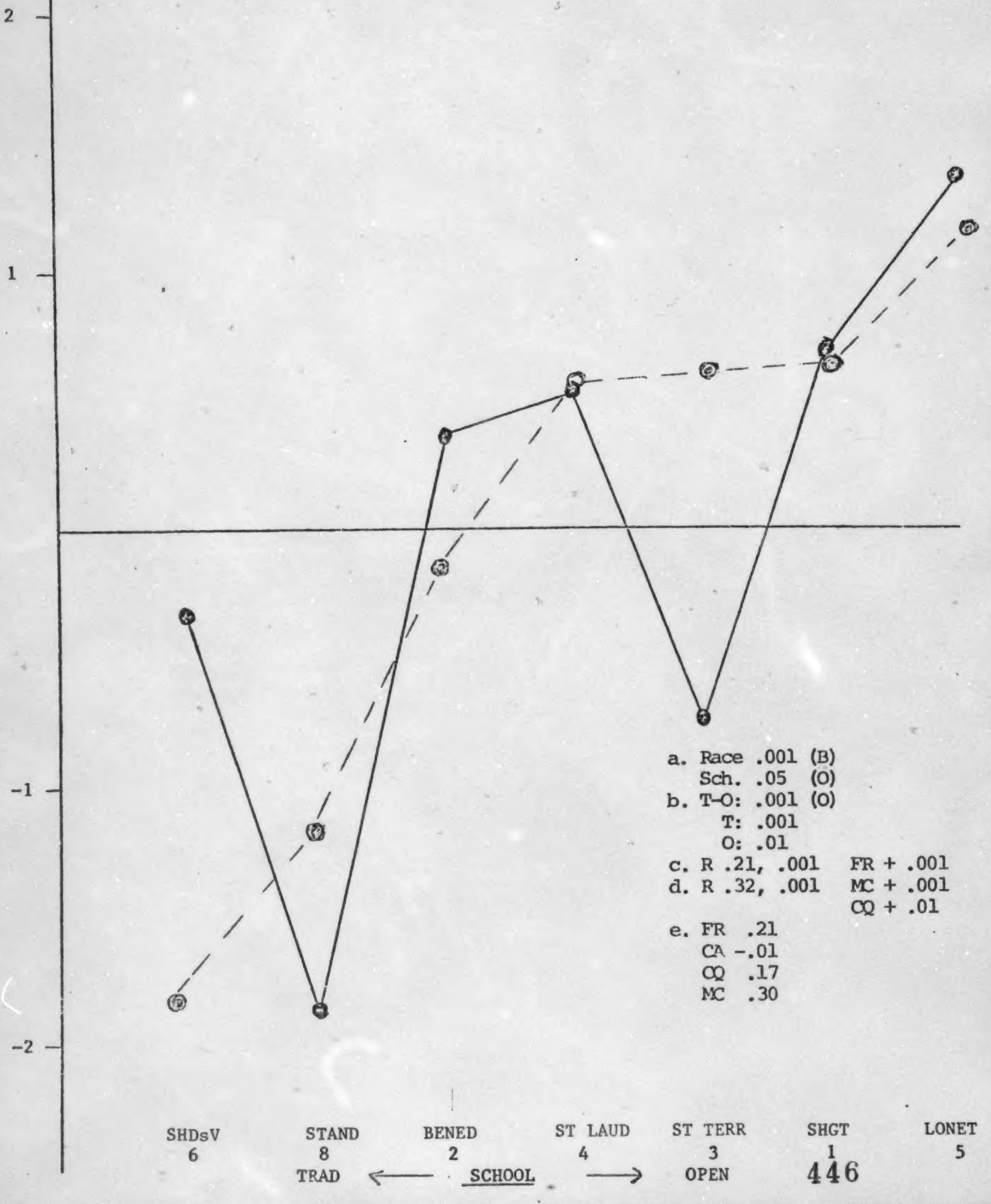


a. Sch. .001 (O)
Sc-Sx.05
b. T-O: .001 (O)
T: .05
O: NS
c. R .19, .001 FR + .001
d. R .26, .001 MC + .001
FR + .01
e. FR .19
CA -.07
CQ .14
MC .24

Graph 3

Time School Allows for all Roles

SIPQ4 F=8.18 ρ =.001 r = .66
(positive direction)



a. Race .001 (B)
Sch. .05 (O)
b. T-O: .001 (O)
T: .001
O: .01
c. R .21, .001 FR + .001
d. R .32, .001 MC + .001
CQ + .01
e. FR .21
CA -.01
CQ .17
MC .30

The two "SIP"[5] measures (graphs 2 and 3) generally reflect the degree to which the children view the schools as offering a variety of roles to which they can relate in the course of their school activities. SIP "2" refers to the amount of time the children say the schools allows them to spend in the 5 roles most salient to their self conceptions. SIP "4" refers to amount of time spent in all roles offered in the questionnaire (approximately 30). The correlations between these 2 SIP measures and attitude towards teacher and school range between .28 and .44 (see correlation matrix for all 16 variables in appendix 9.

On both measures the more individualized of the traditional schools ranks lowest. This is not what we would expect from the observer's check list or the teacher's reports. Perhaps the 7th and 8th graders in the more individualized traditional school are comparing their current situations with the wider opportunities that in fact are offered in the 4th, 5th and 6th grades at this school. The older children have a few periods a week in which they elect what they want to do - mechanics, drafts, sewing, etc. This may elevate their feelings of relative deprivation regarding the rest of their school routine.

The findings from these measures point to the fact that the observer's check list and the children's perception of openness measure distinct realities that are both very important variables.

School 3 (an open school) is lower than the observers would expect and there are no ad hoc explanations of this at the time. School 6, the most traditional school is relatively high according to the observer's expectations. The same anomaly is found on SIP 1 and 5 which is the student's self evaluation of their performance on salient roles and all roles. One would be led to suspect a response set at this point.

---

[5] SIP refers to Salient Identity Pegs (See appendix for questionnaire giving an operational definition of these measures).

Self-Esteem Related Measures

There are two important self-esteem measures that, in terms of their items, are tied to self feelings specifically in the school situation - the Waetjen-Liddle self conception as a learner scale, and the Dillon "Alienation" scale. The items in the latter have to do with whether the child feels he has the potential to meet the expectations required of him in his particular school. (See also the last two scales in the sections for school-related SE measures).

1. The Waetjen-Liddle Learner Self-Conception Scale (Graph 4) seems closely tied to degree of openness as indicated by the FLOS freedom line (Pearson r = .82). Standard deviations are quite uniform. This scale correlated .52 with the Coopersmith, .45 with the Marolla Personal Competency Scale, and .51 with the Dillon "Alienation" scale. It also correlates .47 with self-reliance from teachers, .43 with attitudes toward school and .41 with achievement.[6] At the same time the correlation between the Self Learner Scale and Social-Desirability is very low. The high correlation with achievement and low correlation with social desirability lends some confidence to the construct validity of this measure. Despite its Level IV classification, it should be viewed as one of the "strong" outcomes in light of the above.

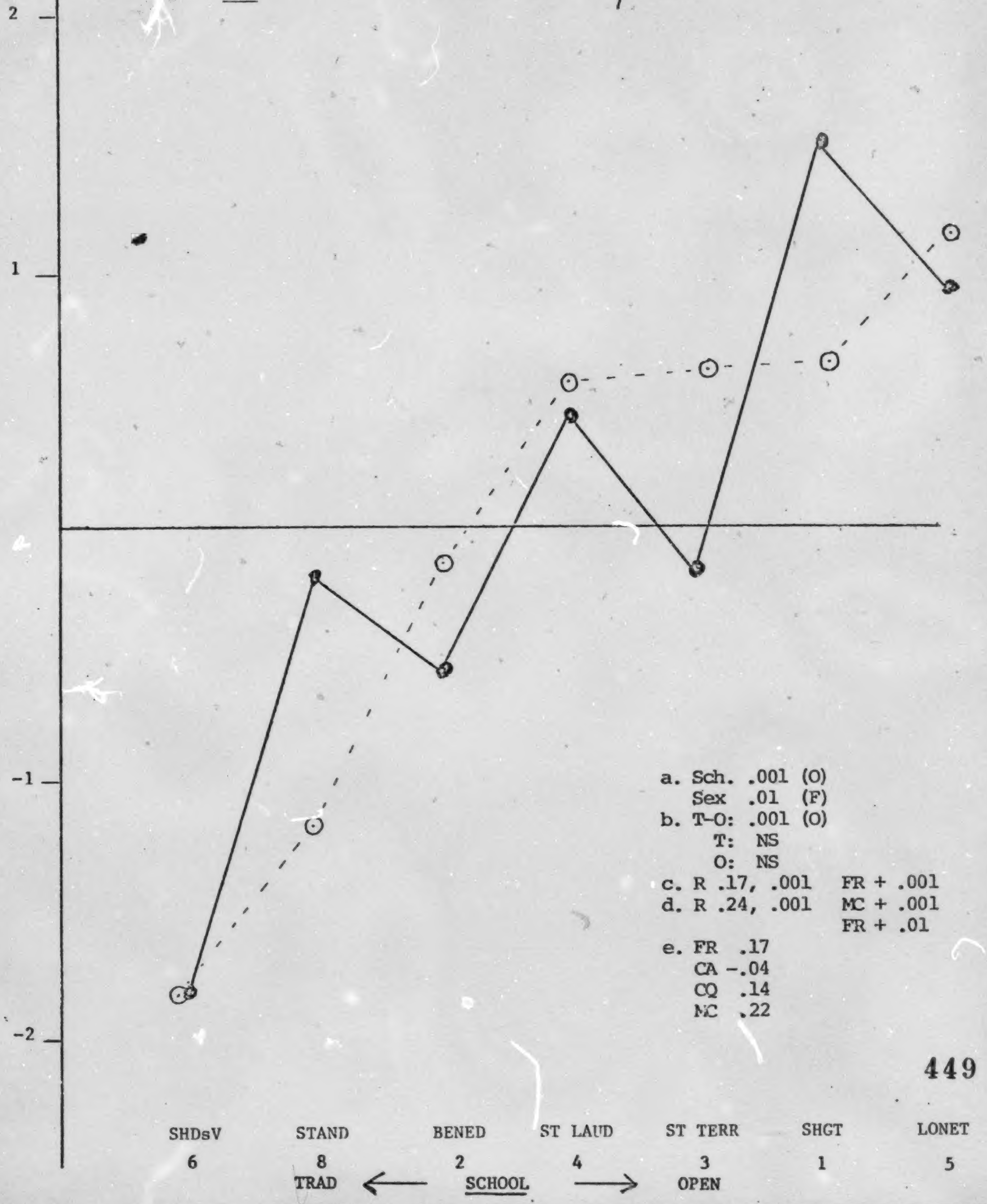
---

[6] Achievement, it will be remembered, is the score standardized Iowa Test of Basic Skills, National Percentile. There is ligitimate question whether this is an adequate measure of achievement. In our opinion it is technically valid but much to narrow definition of the broader issues encompassed by the term achievement.

Graph 4

Waetjen-Liddle Self Concept as a Learner

LSC F=4.51 P =.001 r = .82

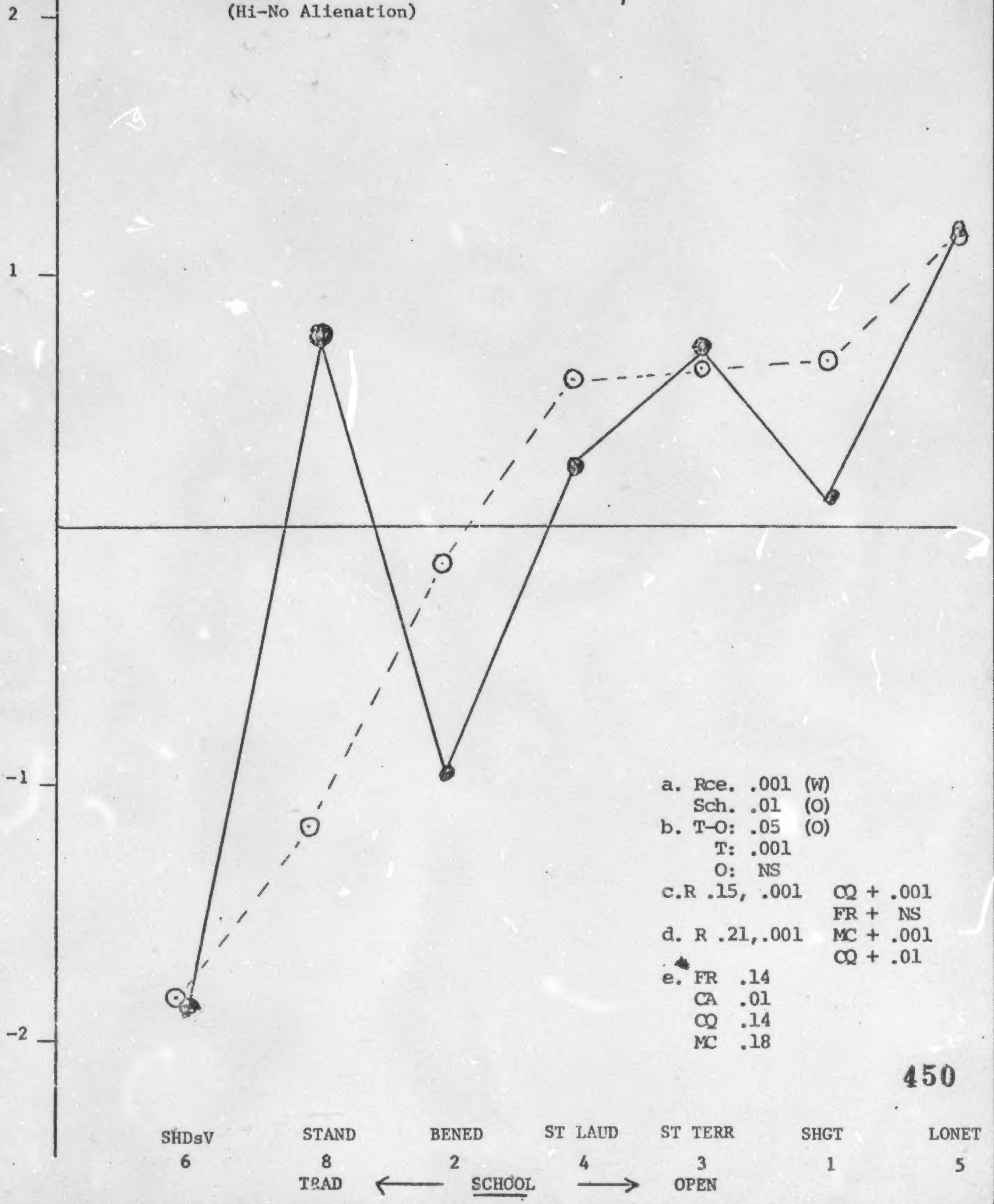


a. Sch. .001 (O)
   Sex .01 (F)
b. T-O: .001 (O)
   T: NS
   O: NS
c. R .17, .001 FR + .001
d. R .24, .001 MC + .001
   FR + .01
e. FR .17
   CA -.04
   CQ .14
   MC .22

Graph 5

Dillon Alienation From School

DILAL F=3.86 ρ =.001 r = .67
(Hi-No Alienation)



a. Rce. .001 (W)
Sch. .01 (O)
b. T-O: .05 (O)
T: .001
O: NS
c.R .15, .001 CQ + .001
FR + NS
d. R .21,.001 MC + .001
CQ + .01
e. FR .14
CA .01
CQ .14
MC .18

2. Feelings of adequacy to meet expectations (the Dillon "Alienation" Scale) closely parallel mean scores on openness with one exception: St. Andrews, or school #8 (the more individualized traditional school) has a very high score in terms of "non alienation" (Graph 5) which diverges sizably from its score on the freedom dimension. Children from this school are "bright" and the program, while challenging, is not unrealistically difficult, i.e. it is well suited to their capabilities. In terms of quality, independent of the open-traditional dichotomy, it is in the research staff's judgement one of the better schools.

3. The disturbing factor in the Coopersmith Self Report is its high correlation with social desirability (which has been reported in many other studies - see for example James Taylor (197). Its correlation with achievement on the other hand is low. In this study these are .47 and .28 respectively.

4. The Marolla Personal Competency measure correlates .36 with social desirability and with .22 with achievement, but one would not expect a high correlation with achievement here unless scholastic performance was a salient identity that the child had committed himself to.

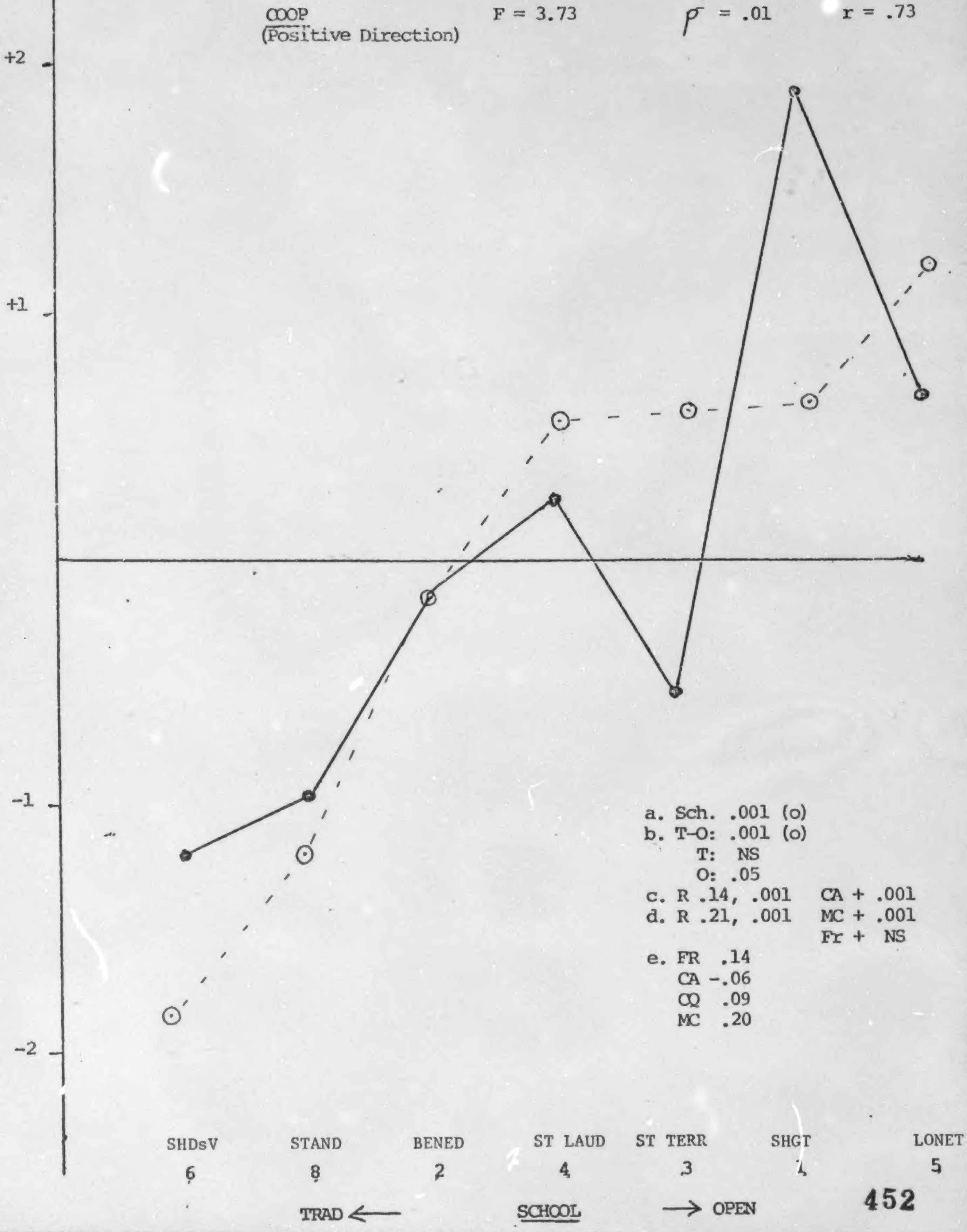
School means on the Coopersmith Scale diverge from the "openness" means for school 3 and 1. For school 1 (ranked as the second most open) the Coopersmith score is strikingly high even taking into consideration the fact that outcome scores are usually high for this school. This includes social desirability. In contrast, school 3 (St. Terrance) is frequently low on dependent variable scores and is markedly lower on the Coopersmith than it is on the FLOS freedom dimension of openness. It is interesting to note that this school has the lowest social desirability mean of all other

Graph 6

Coopersmith Self-Reported Global Self-Esteem

COOP
(Positive Direction)

F = 3.73 ρ = .01 r = .73

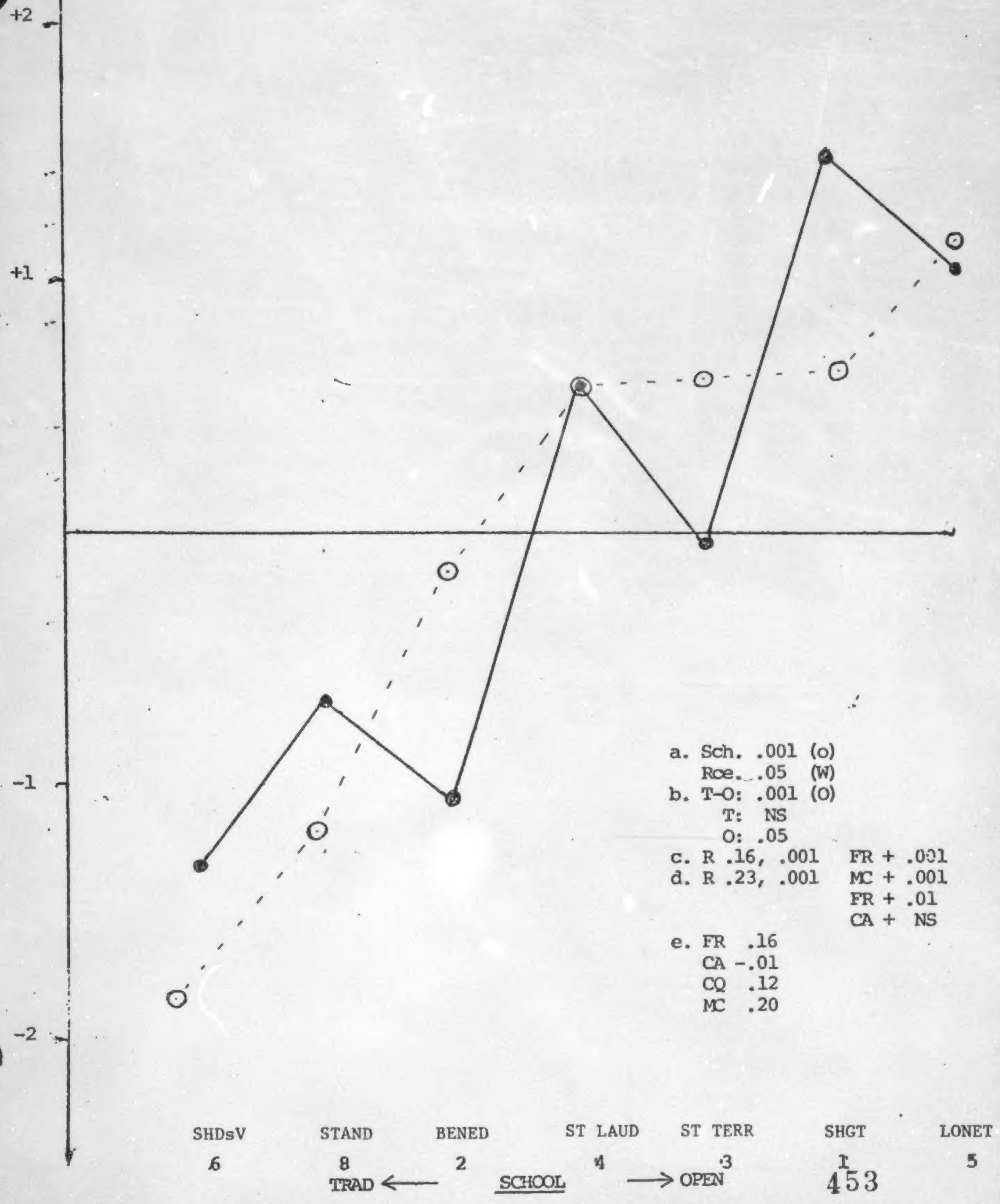


a. Sch. .001 (o)
b. T-O: .001 (o)
T: NS
O: .05
c. R .14, .001 CA + .001
d. R .21, .001 MC + .001
Fr + NS
e. FR .14
CA -.06
CQ .09
MC .20

Graph 7

Marolla Competency-Based Self-Esteem

JOCOMP F = 3.71 ρ = .01 r = .82



a. Sch. .001 (o)
Rce. .05 (W)
b. T-O: .001 (O)
T: NS
O: .05
c. R .16, .001 FR + .001
d. R .23, .001 MC + .001
FR + .01
CA + NS
e. FR .16
CA -.01
CQ .12
MC .20

schools! The correlation of mean scores for the Coopersmith and FLOS freedom is .73.

Once again for the Semantic Differential Evaluation factor (Graph 8) school 1 (Sacred Heart, Georgetown) is higher than expected and St. Terrance is low. Also school 2 (Benedictine) is higher and school 4 (St. Laude) is low. This latter relationship is reminiscent of the McPartland and attitudes toward school scale. The semantic differential has low correlations with the other self-esteem measures mentioned above and a .44 correlation with social desirability.

The next two scales, SIPS 1 and 5, are self evaluation of performances in the roles presented to the students in the questionnaire (see Graphs 9 and 10).

These two scales have the lowest correlations with the freedom dimensions among the sixteen variables considered here. (Except for the one achievement measure). Benedictine, the least open of the open schools, has the highest school mean on both measures, and school 5 (Lanetto) the most open school, is unexpectedly low. The high scores mentioned above are too high to accept at face value without further thought. The same pattern found on SIPS 2 and 4 (students perceptions of roles available) emerges here i.e. St. Terrance is very low and school 8 is lower than 6. Perhaps this represents a response set; at any rate it needs further investigation. (See same situation with SIP's 1 and 5 above).

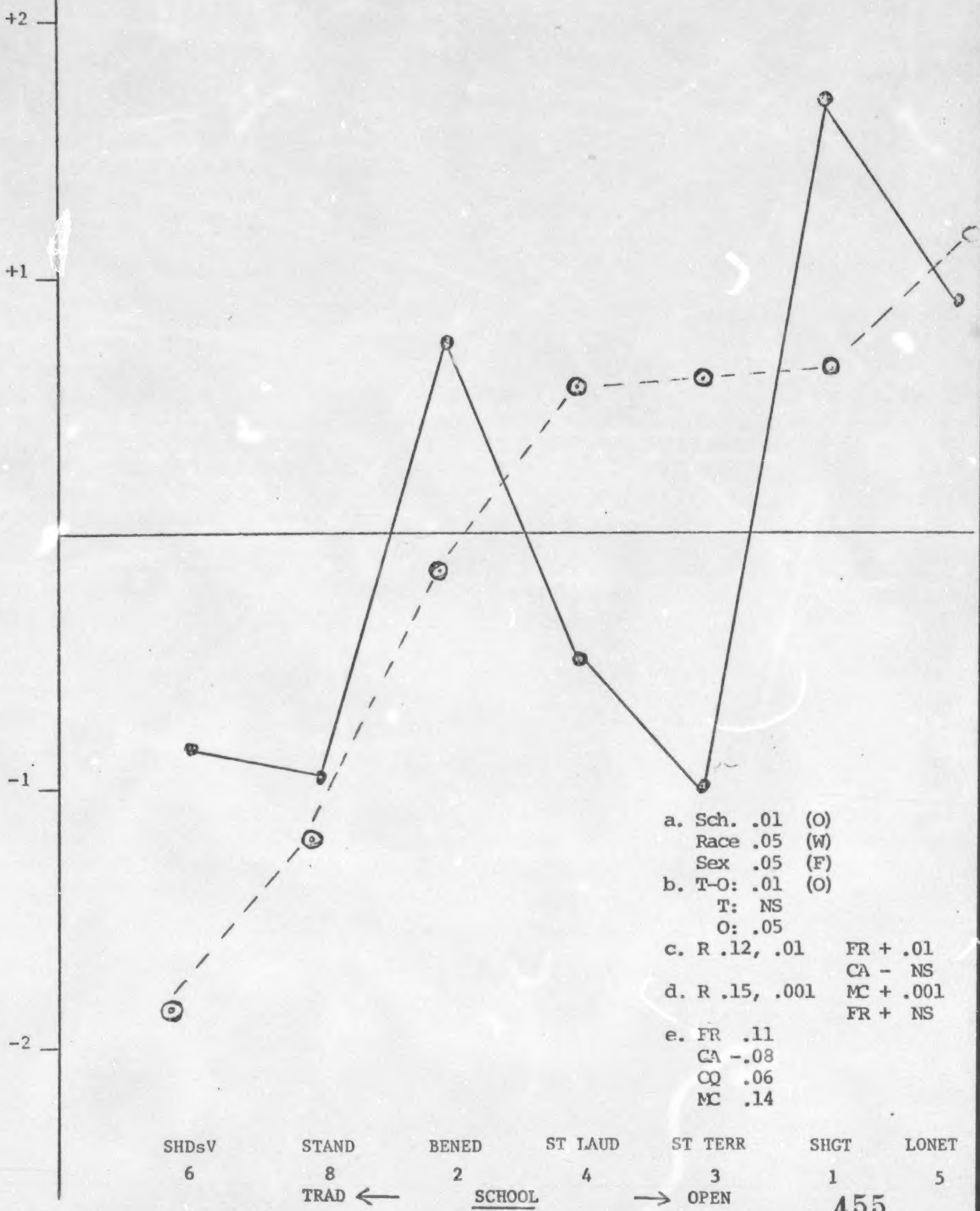
Childrens' Social Desirability

The Children's Social Desirability measure is categorized by itself since it is designed to be of interest as a reactive measure i.e. it

Graph 8

Semantic Differential Self-Esteem: Evaluative

SD/EVA F=3.57 p =.01 r = .53



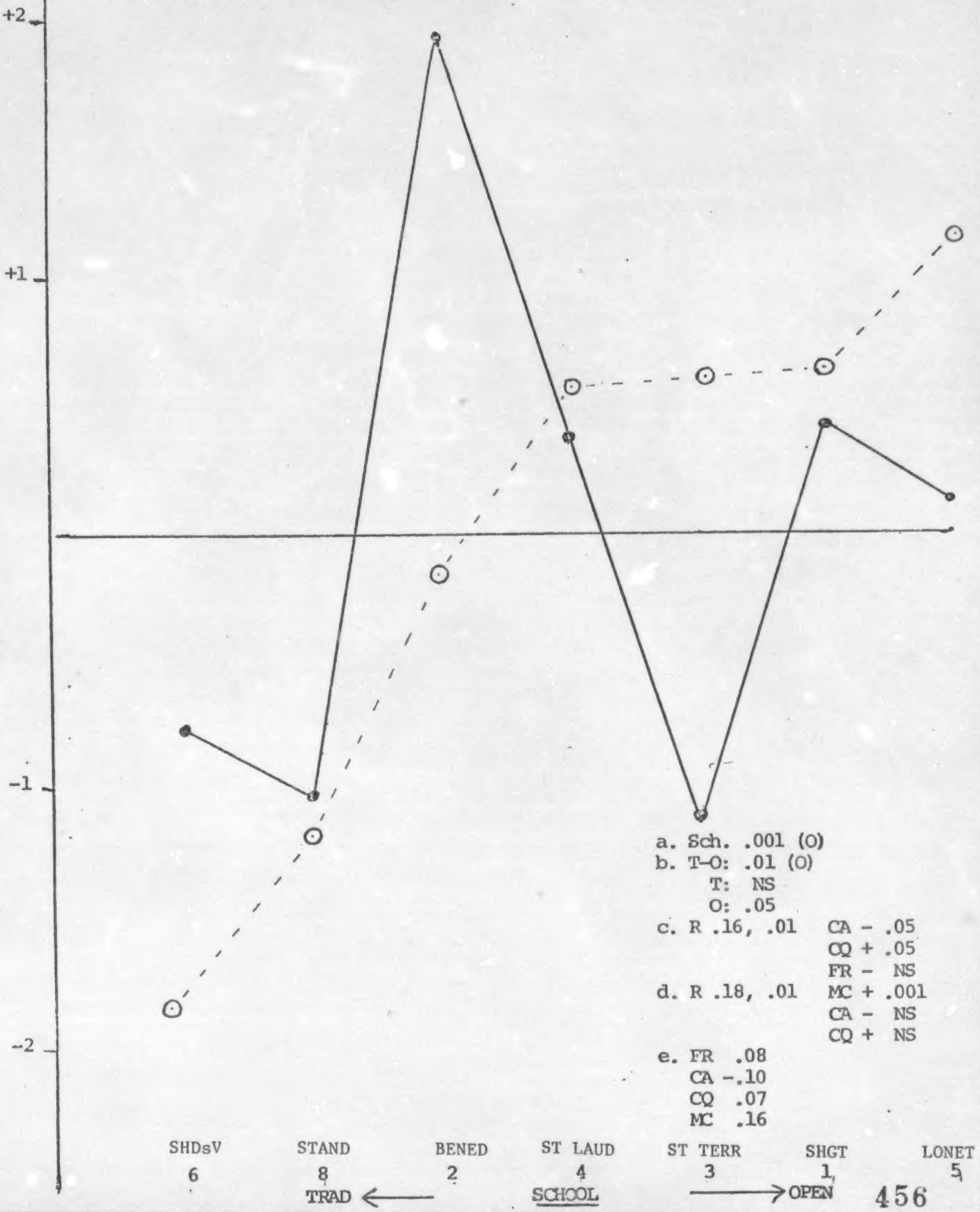
a. Sch. .01 (O)
Race .05 (W)
Sex .05 (F)
b. T-O: .01 (O)
T: NS
O: .05
c. R .12, .01 FR + .01
CA - NS
d. R .15, .001 MC + .001
FR + NS
e. FR .11
CA -.08
CQ .06
MC .14

Graph 9

Self-Evaluation of Performance on 5 Salient Roles

SIPQ 1
(Positive Direction)

F = 3.03 $\rho = .01$ r = .31

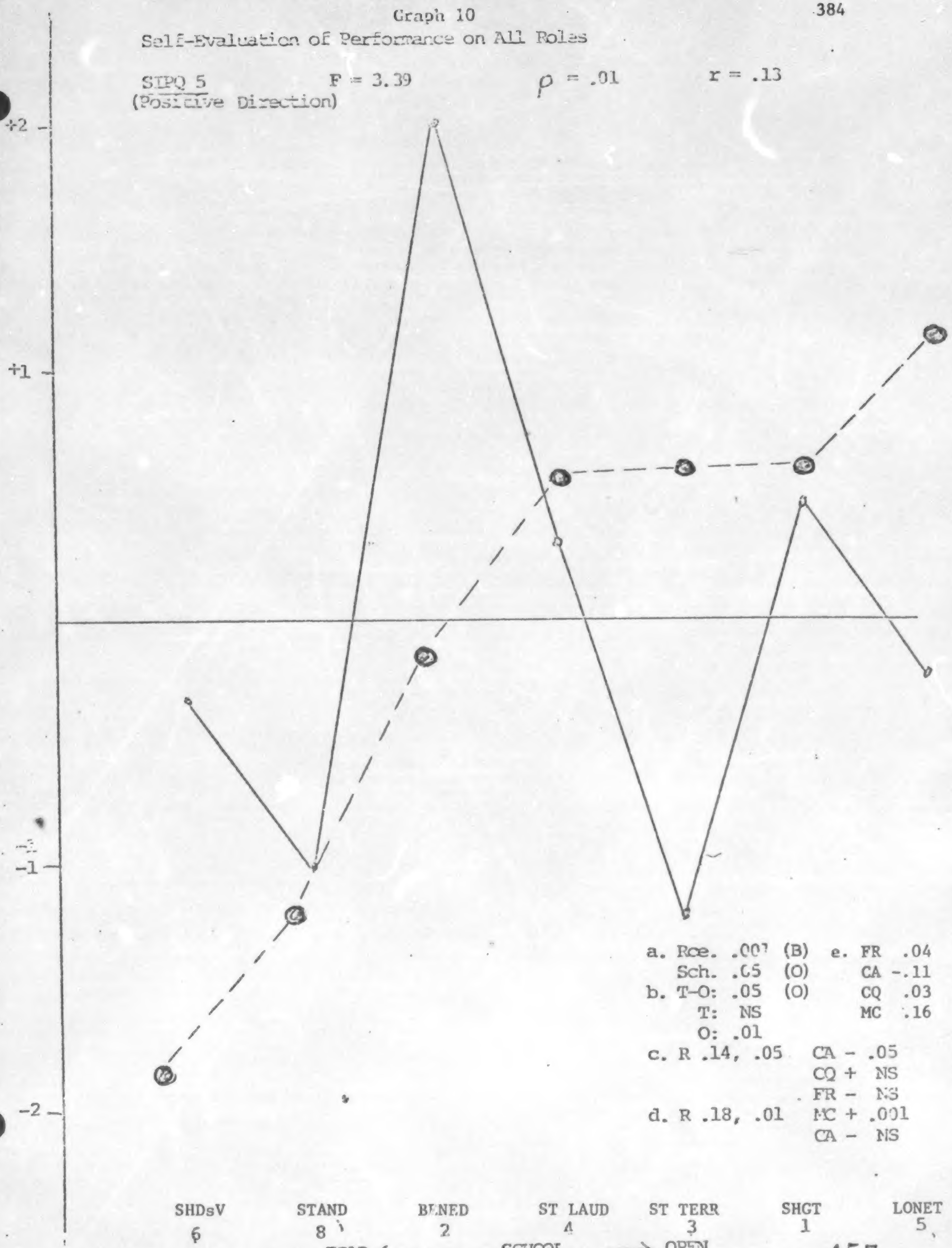


a. Sch. .001 (O)
b. T-O: .01 (O)
T: NS
O: .05
c. R .16, .01 CA – .05
CQ + .05
FR – NS
d. R .18, .01 MC + .001
CA – NS
CQ + NS
e. FR .08
CA –.10
CQ .07
MC .16

Graph 10

Self-Evaluation of Performance on All Roles

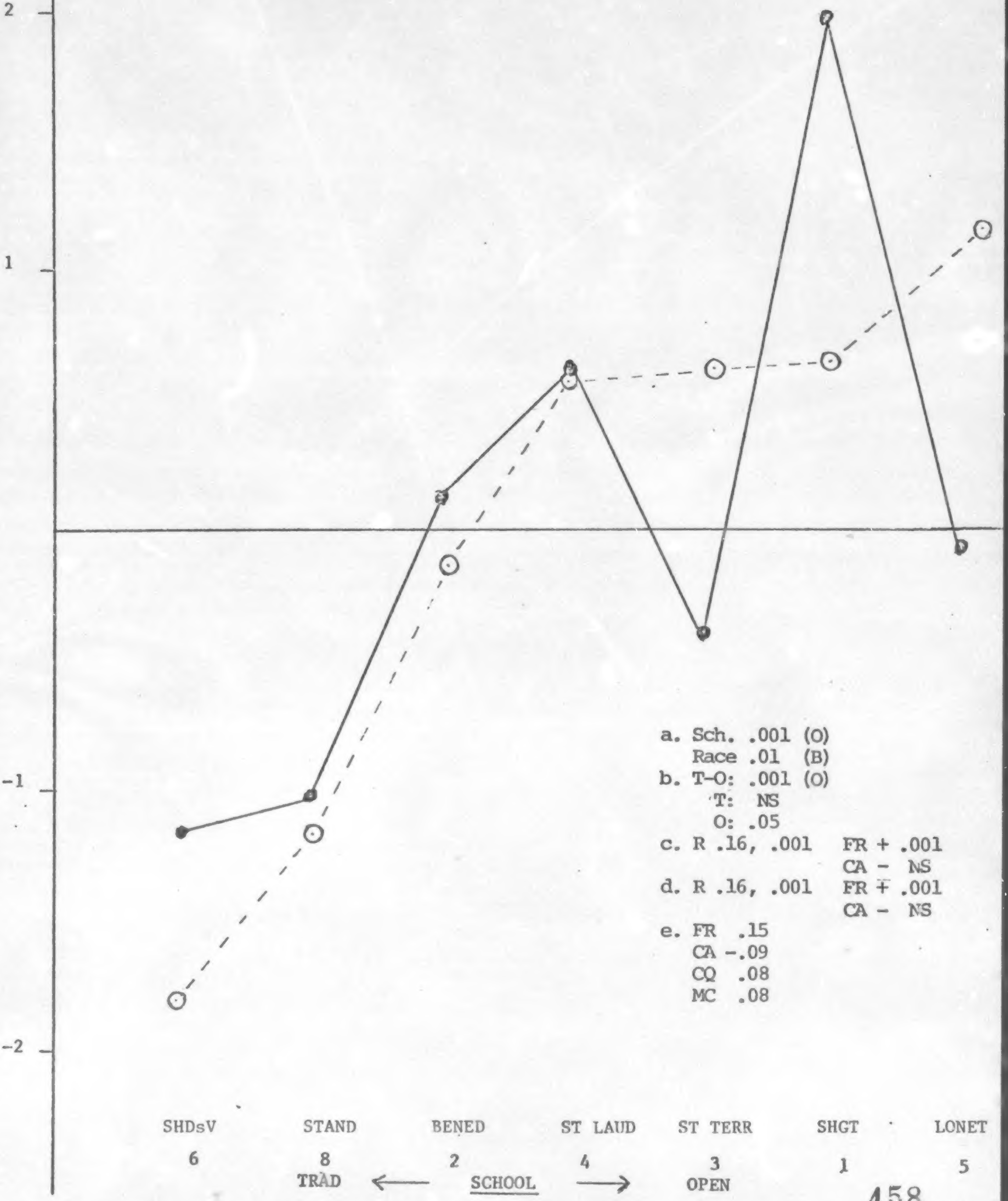
SIPQ 5 F = 3.39 ρ = .01 r = .13
(Positive Direction)



a. Rce. .001 (B) e. FR .04
Sch. .05 (O) CA -.11
b. T-O: .05 (O) CQ .03
T: NS MC .16
O: .01
c. R .14, .05 CA - .05
CQ + NS
FR - NS
d. R .18, .01 MC + .001
CA - NS

Graph 11
Children's Social Desirability

SOCDES F=4.90 p =.001 r = .67
(hi=socially desirable response)



a. Sch. .001 (O)
Race .01 (B)
b. T-O: .001 (O)
T: NS
O: .05
c. R .16, .001 FR + .001
CA - NS
d. R .16, .001 FR ∓ .001
CA - NS
e. FR .15
CA -.09
CQ .08
MC .08

ostensibly measures the degree to which students answer items according to what they judge the "socially desirable" response. The correlation of this measure with FLOS freedom is .67. School #1 is high, while schools 3 and 5 (St. Terrance & Lanetto) are comparatively low (see Graph 11). This is a pattern noted in many of the scales discussed above. This is especially true with most of the self report scales (See Coopersmith especially for a striking similarity). To a lesser but important degree see also Personal Competency, Learner's Self Concept, the self reliance scale discussed below and attitude toward school and teacher. The SIP measures, the Dillon scale, the program implementation and the achievement scores do not follow this pattern to the same degree as those mentioned above. Construct validation of this measure has generated conflicting results in this study producing a real question as to what this scale is actually measuring.[7]

Autonomy Measures

There are two autonomy measures: Grout-Wismer Self Reliance from teacher scale and the school success interview item. Both are rather specific in their focus. The Grout-Wismer items are designed to measure a preference for working on one's own resources rather than on the Teacher's direction.

The interview item (Graph 12) was concerned with whether the children has their own autonomous measures of evaluating their performances or whether they looked toward extrinsic authority. Is is notable that the correlation between the interview item and social desirability is only .07. However, the correlation of school means between the interview item and the FLOS freedom is .96 - the highest among the sixteen variables reviewed here. School #4 and 6 are noticeably higher on this item than they are on the FLOS measure, while 8 and 2 are lower. School #2 is populated by the lowest mean income students in this sample, and it is frequently found that low income persons are authoritive in the sense measure by the interview item. In school #4 the observers have noticed that the teachers make a concerted effort to instill this kind of autonomy in their students.

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[7] (Correlation of social desirability with Coopersmith is .47, Marolla Competency .36, Learner Self-Concept .33, Sem. Diff-Eval .44, Attitude toward school .42, and Attitude toward Teacher .36.

There seems to be a relationship between competency and self-reliance (Graph 13). Individual student correlations of Self-Reliance with achievement (using national percentile of Iowa Basic Skills Test) is .34, with Learner Self-Concept .47, and with Coopersmith .34. Reliance and Inner Source of self-esteem is .29. The school means on self-reliance produce a line similar to those created by Learners' self concept, Dillon "Alienation" and personal competency. These are measures consisting of items tapping ones feelings of ability to perform at school and in general.

If school #8 is described strictly in terms of individualized programs (implying a great deal of independent activity on part of the student) it would rank comparatively high among the other schools[8]. Hence the high score on self-reliance here is not surprising. School #1 was also noticeably high while 2 and 3 were low. Children from schools 2 and 3 may not

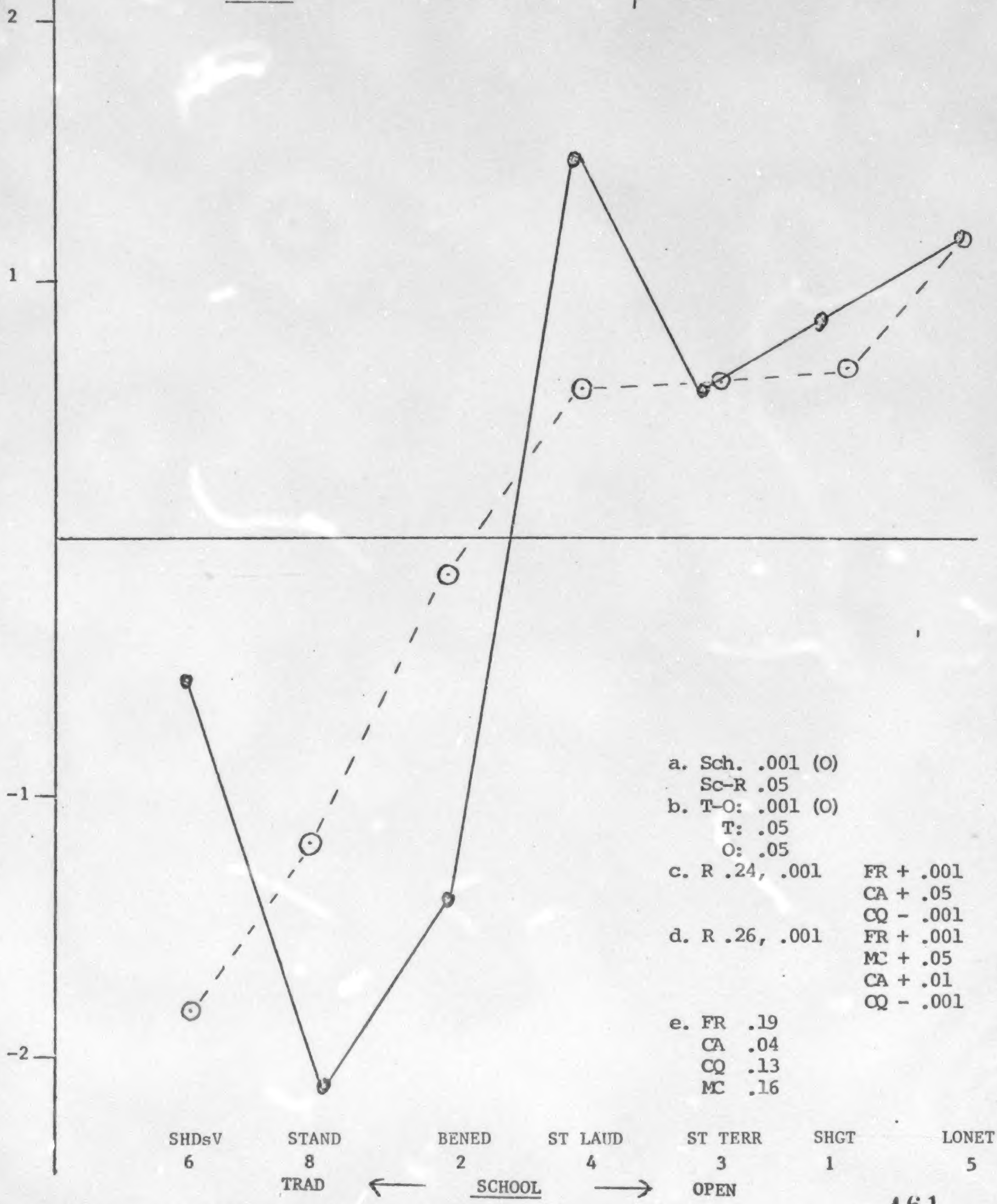
---

[8] The FLOS freedom measure did include individualization but only as one of many factors.

Graph 12

Interview Item: autonomous criteria for self-evaluation of schoolwork

SCHSUC F=5.34 ρ =.001 r = .96

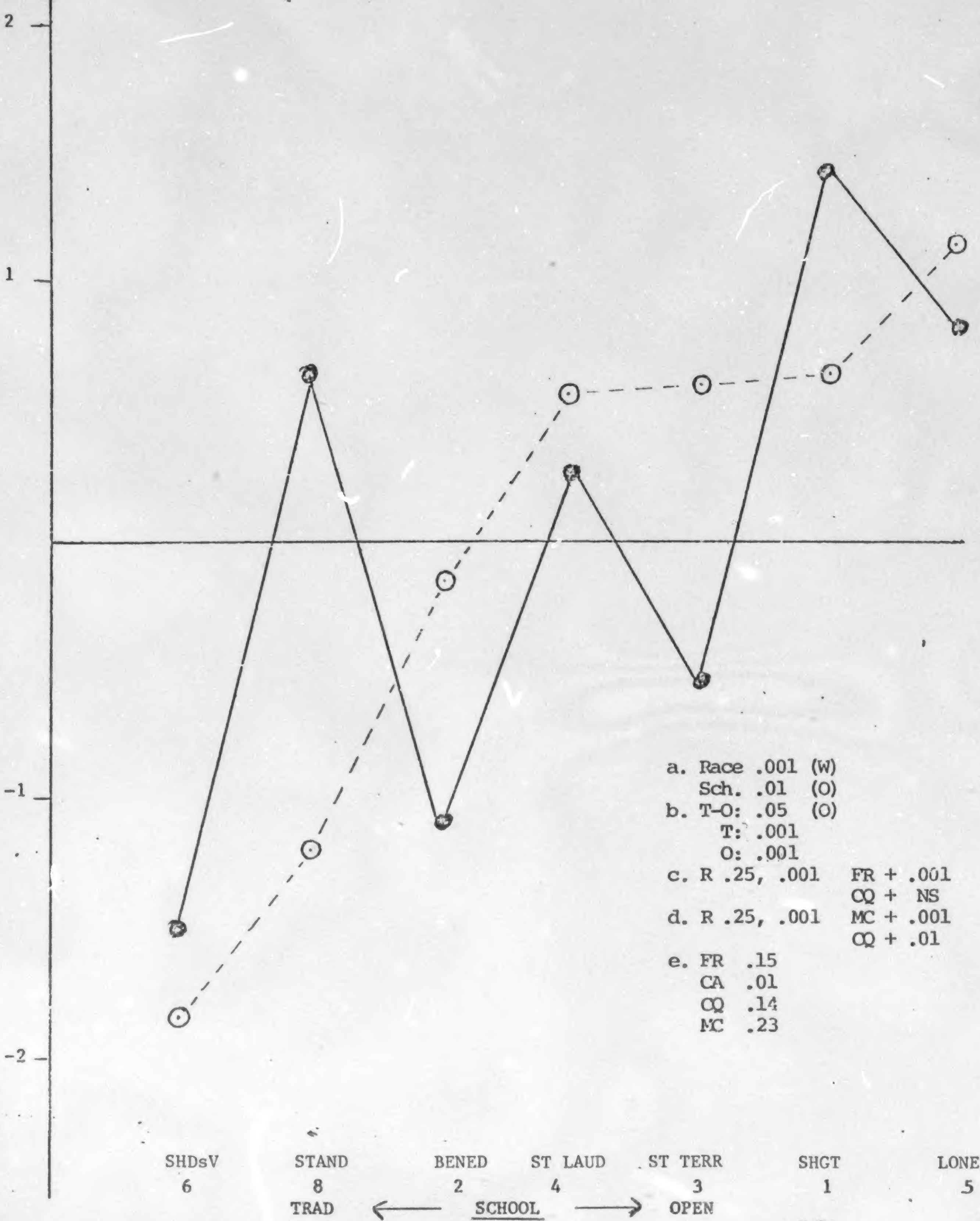


a. Sch. .001 (O)
Sc-R .05
b. T-O: .001 (O)
T: .05
O: .05
c. R .24, .001 FR + .001
CA + .05
CQ - .001
d. R .26, .001 FR + .001
MC + .05
CA + .01
CQ - .001
e. FR .19
CA .04
CQ .13
MC .16

Graph 13

Grout-Wismer Self-Reliance from Teacher

GWSR F=6.00 ρ =.001 r = .65



a. Race .001 (W)
   Sch. .01 (O)
b. T-O: .05 (O)
   T: .001
   O: .001
c. R .25, .001 FR + .001
   CQ + NS
d. R .25, .001 MC + .001
   CQ + .01
e. FR .15
   CA .01
   CQ .14
   MC .23

prefer (or feel competent to handle) the unstructured program that is offered. There is some support for this from talking to the children on these schools. The high school interview data should be analyzed with this in mind. Perhaps the high ability children (in open schools) like the unstructured schools, while the low ability children may tend to want more external structure. This graph is interesting as an initial approach to the problem of the mutual adaptation between characteristics of students and demands of the school programs.

Attitude Toward School and Teacher

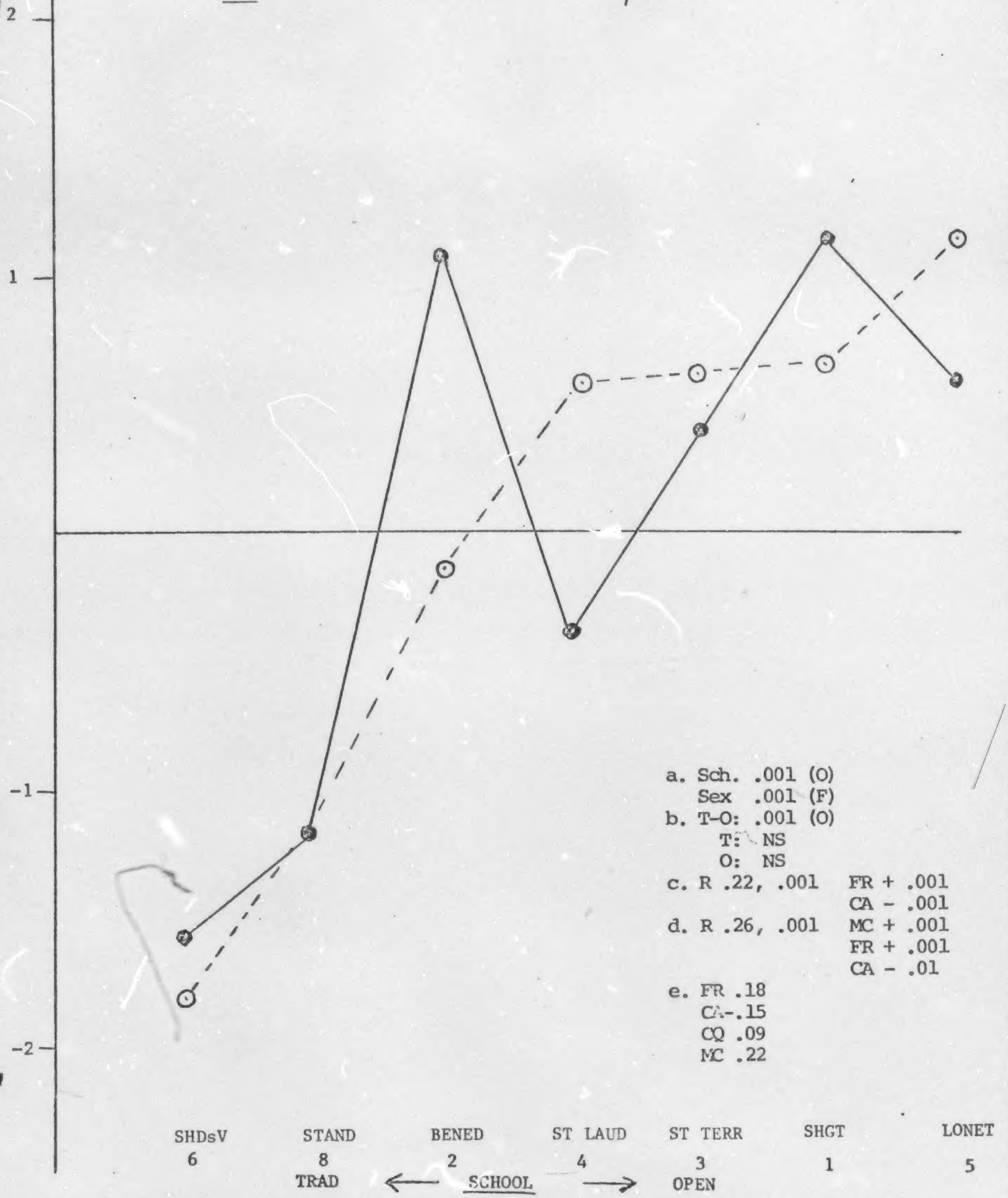
The two Attitude Toward School and Teacher scales were revised from those created by Wiess at the Ontario Institute for Studies in Education. Their correlations with Social Desirability are .42 and .36 respectively, with Learner Self-Concept .43 and .38; with time offered for various roles .33 and .44.

As mentioned before, the graph for Attitude Toward School has a striking resemblence to the McPartland Students' Perception of Openness graph, where the means for school 2 is higher and school 2 lower than means in the freedom scale (See Graph 14). McPartlands' scale may be measuring attitude toward school. In any case they seem closely connected. Why is school 2 high and 4 low? This may reflect their true attitude toward school. The children at school 2 came from impoverished backgrounds and may see the school as an island - a welcomed relief from their neighborhood conditions. The same may be true for school #1. Conversely the students at school 4, having a more challenging program with less unstructured time, may feel less enthusiastic about school. They come from a higher

Graph 14

Attitude Toward School

ATS F=5.54 p =.001 r = .78



a. Sch. .001 (O)
   Sex .001 (F)
b. T-O: .001 (O)
   T: NS
   O: NS
c. R .22, .001 FR + .001
   CA - .001
d. R .26, .001 MC + .001
   FR + .001
   CA - .01
e. FR .18
   CA-.15
   CQ .09
   MC .22

economic class where the non-school environment may be more enjoyable than for students at school 1 and 2 (Sacred Heart, Georgetown and Benedictine).

The Attitude Toward Teacher (Graph 15) scale correlates .65 with Attitude Toward School according to students' individual scores. Looking at school means, schools 2 and 3 are higher in school than teacher attitudes. The observers have noted that though these children like school they did have certain animosities towards the staff in that year. This was to a degree not found in other schools. School #1 is the highest again while schools 3 (St. Terrance) and 4 (St. Laude) are not as high as the FLOS scale. In general, children seem to feel more positively about open schools than they do traditional ones.

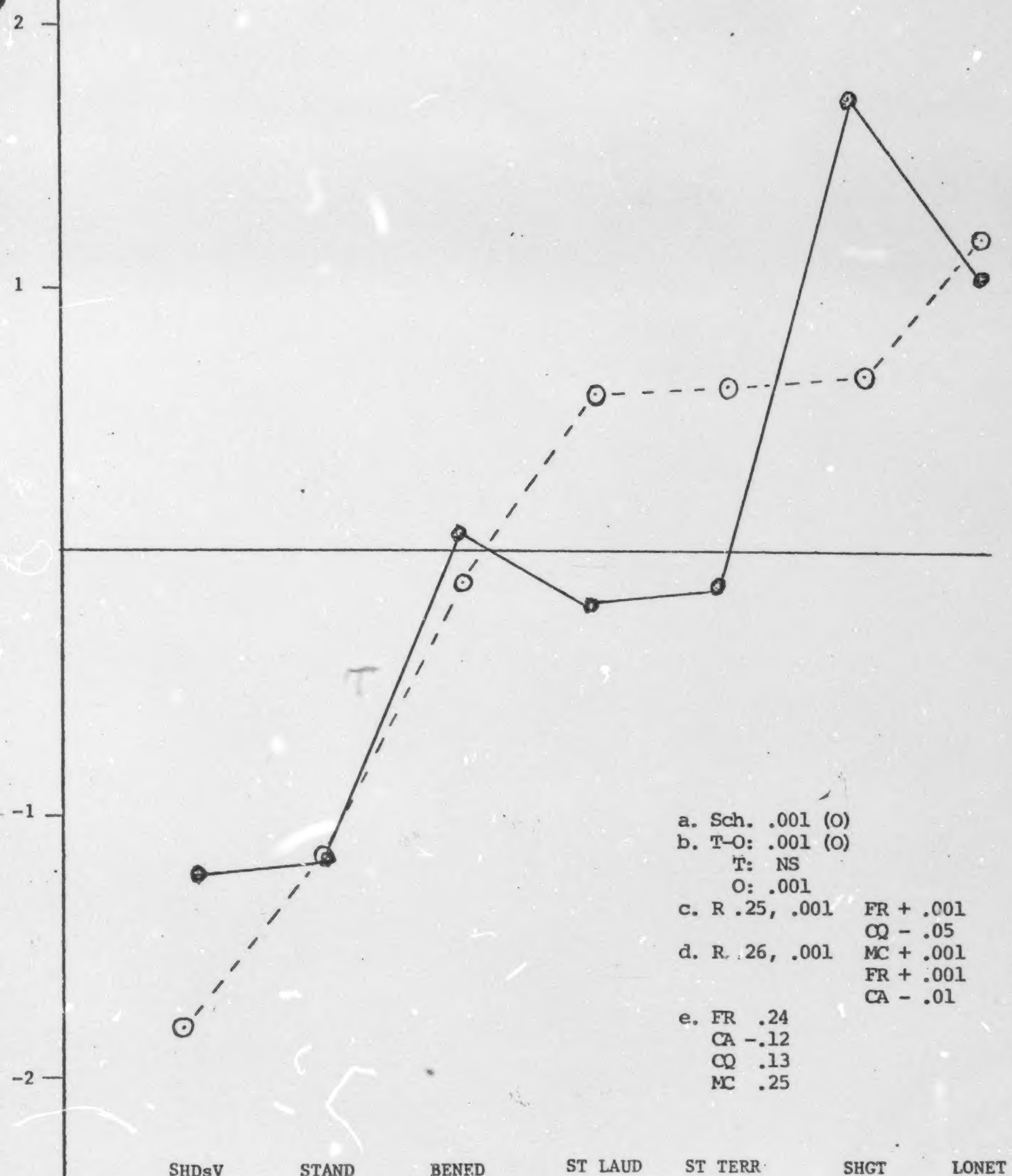
Achievement

The scholastic high school placement exam given to the 8th graders does not differentiate between the schools when race and sex differences were controlled. The test of Iowa Basic Skills (national percentiles of the composite score) did emerge with significant differences among schools even after being standardized for race-sex. The school means correlation with FLOS freedom was .07. The traditional schools and the most open school were high. But the remaining open schools were all low. This is true even after scores were standardized for race and sex groupings. However, the school means correlated .75 with the FLOS amount of control measure and the graphs are remarkably similar (See Graph 16). School 4 is lower than one would expect and school 1 is higher than expected judging from amount of control. Control refers to the active invlovement in and supervision by, the teacher in each child's learning process as opposed to a laissez-aire modus operandi.

Graph 15

Attitude Toward Teacher

ATT F=9.48 p =.001 r = .81

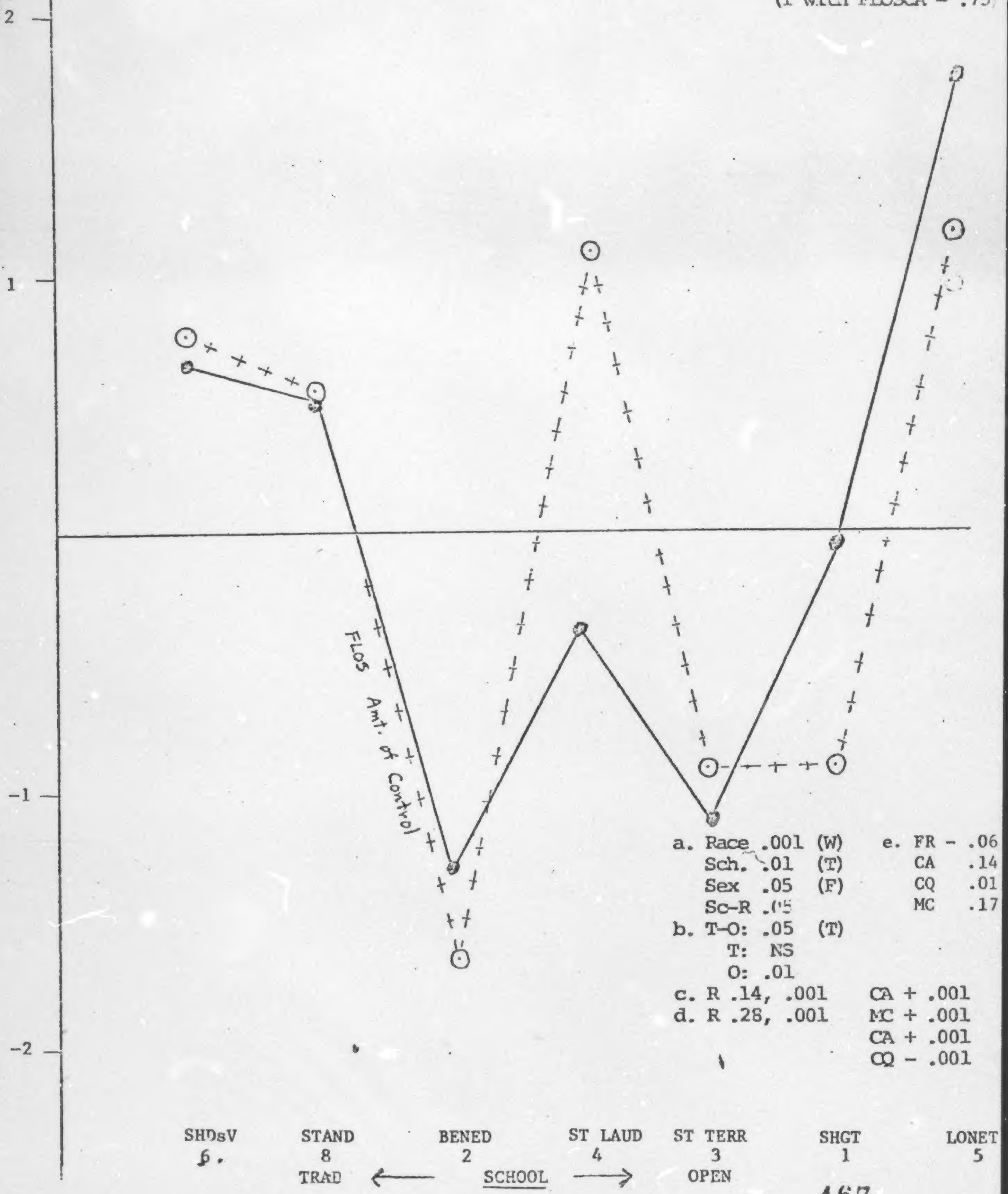


a. Sch. .001 (O)
b. T-O: .001 (O)
T: NS
O: .001
c. R .25, .001 FR + .001
CQ - .05
d. R .26, .001 MC + .001
FR + .001
CA - .01
e. FR .24
CA -.12
CQ .13
MC .25

Graph 16

Iowa Basic Skills Academic Achievement: National Percentile

NATLPC F=3.84 $p = .001$ $r = -.07$
(r with FLOSCA = .75)



a. Race .001 (W)
Sch. .01 (T)
Sex .05 (F)
Sc-R .05
b. T-O: .05 (T)
T: NS
O: .01
c. R .14, .001
d. R .28, .001

e. FR - .06
CA .14
CQ .01
MC .17

CA + .001
MC + .001
CA + .001
CQ - .001

It is to be noted that the achievement scores do not strongly correspond to the self-reported competency measures. Achievement correlates with Learner Self-Concept .41, with Self-Reliance .34, with Dillon "Alienation" .37, with Coopersmith .28, with Marolla Competency .22, and even less with SIP Self-Evaluation of performance scales. In addition, no strong correlation seems to exist between attitude toward school and achievement, at this point in analysis.

SUMMARY

In general, the self-esteem and attitude toward school scores were higher for the open schools than for the traditional schools, as were the autonomy measures and the subjective indicators of program openness. In addition, the achievement scores were lower for the open schools than for the traditional schools (however, family background explains this difference, when parental data is related to the outcome variables).

APPENDIX F

INTERCORRELATION TABLES
AND MISCELLANEOUS DATA

Table

Correlations Among Gain Scores

(Elementary School Sample Years 1-2, raw scores)

	*COOP	SOCDES	*NSCONT	JGSD/A	JGSD/P	JGSD	JOCOMP	ATS	ATT	GWSR	DILAL	LSC	MCPOP	NATLPC
*COOP														
SOCDES	-13													
*NSCONT	34	25												
JGSD/A	09	54	17											
JHSD/P	19	15	02	25										
JGSD	18	45	11	78	77									
JOCOMP	22	16	X	X	X	X								
ATS	12	15	03	05	16	14	26							
ATT	12	16	07	09	-09	-03	32	55						
GWSR	10	05	10	-01	-01	-01	33	04	07					
DILAL	10	15	19	00	-12	-07	27	19	18	27				
LSC	26	16	14	10	05	09	39	31	27	26	34			
MCPOP	03	04	-01	-01	-01	-01	07	00	04	15	06	05		
NATLPC	-05	-12	01	-08	-14	-14	06	04	01	08	01	06	02	

*Low score is desirable, so signs have been reversed for proper direction.
(Partial sample only on NSCONT and JGSD variables: youngest students only.)

TABLE XIV

Inter-Correlations Among Outcome Variables
Based on sex-race standardized scores
All schools, Grades 6-8, Year 3

	COOP*	JOCOMP	JOLCS	SIPQ1*	SIPQ5*	DILAL	LSC	GORDON	SD/POT	SD/EVA	TBR	TBRDEF*	COOPSC*	COOPPA*	SOCDES	SOURCE*	GWSR	SCHSUC	ATS	ATT	SIPQ2*	SIPQ4*	IQ	COMPOS	NATLPC
COOP *		.50	.51	.27	.26	.32	.52	.35	.39	.32	.23	.10	.47	.69	.47	.35	.34	.13	.35	.36	.23	.22	.20	.17	.28
JOCOMP *	.50		.58	.26	.17	.28	.45	.36	.32	.28	.15	.08	.20	.34	.36	.41	.30	.08	.32	.34	.13	.15	.15	.13	.22
JOLGS	.51	.58		.37	.32	.29	.47	.58	.42	.24	.17	-01	.19	.34	.25	.43	.36	.07	.30	.29	.18	.17	.24	.24	.29
SIPQ1 *	.27	.26	.37		.57	.17	.30	.35	.34	.22	.09	-04	.18	.14	.16	.21	.18	.11	.27	.26	.25	.28	-01	.00	.09
SIPQ5 *	.26	.17	.32	.57		.14	.34	.38	.31	.26	.04	-07	.18	.04	.20	.22	.25	-01	.28	.24	.21	.29	.00	-04	.00
DILAL	.32	.28	.29	.17	.14		.51	.32	.17	.14	.21	.09	.20	.24	.18	.18	.37	.14	.27	.28	.16	.12	.35	.41	.37
LSC	.52	.45	.47	.30	.34	.51		.37	.29	.25	.26	.08	.25	.34	.33	.36	.47	.15	.43	.38	.23	.22	.44	.43	.41
GORDON	.35	.36	.58	.35	.38	.32	.37		.41	.29	.14	-00	.16	.17	.16	.26	.28	.07	.29	.27	.13	.21	.25	.32	.31
SD/POT	.39	.32	.42	.34	.31	.17	.29	.41		.31	.17	-12	.14	.20	.22	.26	.21	.14	.24	.22	.11	.15	.8	.18	.20
SD/EVA	.32	.28	.24	.22	.26	.14	.26	.29	.31		.07	.10	.19	.13	.44	.15	.12	.04	.30	.31	.20	.21	.07	.02	.10
TBR	.23	.15	.17	.09	.04	.21	.26	.14	.17	.07		.30	.08	.23	.04	.14	.14	.09	.16	.14	.15	.12	.26	.25	.32
TBRDEF *	.10	.08	-01	-04	-07	.09	.08	-00	-12	.10	.30		.05	.11	.14	.07	.04	.08	.07	.10	.09	.04	-13	.11	.07
COOPSC *	.47	.20	.19	.18	.18	.20	.25	.16	.14	.19	.08	.05		.22	.30	.01	.08	.06	.30	.33	.19	.21	-02	-04	.07
COOPPA *	.69	.34	.34	.14	.04	.24	.34	.17	.20	.13	.23	.11	.32		.25	.26	.22	.07	.21	.21	.14	.14	.25	.24	.29
SOCDES	.47	.36	.25	.16	.20	.18	.33	.16	.22	.44	.04	.14	.39	.25		.20	.16	.07	.42	.36	.18	.19	.10	.11	.04
SOURCE *	.35	.41	.43	.21	.22	.18	.36	.26	.26	.15	.14	.07	.01	.26	.20		.29	.05	.19	.13	.09	.13	.19	.16	.23
GWSR	.34	.30	.36	.18	.25	.37	.47	.28	.21	.12	.14	.04	.08	.22	.16	.29		.10	.18	.19	.13	.11	.32	.29	.34
SCHSUC	.13	.08	.07	.11	-01	.14	.15	.07	.14	.04	.09	.08	.06	.07	.07	.05	.10		.08	.08	.15	.14	.12	.09	.15
ATS	.35	.32	.30	.27	.28	.27	.43	.29	.24	.30	.16	.07	.30	.21	.42	.19	.18	.08		.65	.28	.33	.17	.16	.16
ATT	.36	.34	.29	.26	.24	.28	.38	.27	.22	.31	.14	.10	.33	.21	.36	.13	.19	.08	.65		.37	.44	.05	.01	.31
SIPQ2*	.23	.13	.18	.25	.21	.16	.23	.13	.11	.20	.15	.09	.19	.14	.18	.09	.13	.15	.28	.37		.73	.11	.08	.21
SIPQ4*	.22	.15	.17	.28	.29	.12	.22	.21	.15	.21	.12	.04	.21	.14	.19	.13	.11	.14	.33	.44	.73		.07	.01	.13
IQ	.20	.15	.24	-01	.00	.35	.44	.25	.18	.07	.26	.13	-02	.25	.10	.19	.32	.12	.17	.05	.11	.07		.90	.80
COMPOS	.17	.13	.24	.00	-04	.41	.43	.32	.18	.02	.25	.11	-04	.24	.11	.16	.29	.09	.16	.01	.08	.01	.90		.88
NATLDC	.28	.22	.29	.09	.00	.37	.41	.31	.20	.10	.32	.07	.07	.29	.04	.23	.34	.15	.16	.21	.21	.13	.80	.88	

* signs corrected for proper direction = positive score = desirable

Correlations Between 34 FAMILY VARIABLES
(Ach. Mot., H. Envir., Class. Act., Dem.)
and 8 outcome variables
(LSC, DILAL, ATS, ATT, SOCDES, SOURCE, GWSR, NATLPC)
(Only R's _.20 are reported)

LSC	Nothing		
DILAL	AM1/M	.22	Occ. Prim. not Imp.
	AC2/F	.22	Methods Expl.
	AC3/F	.25	Impressed
	DEM7/M	.21	Empl. status
	DEM8/F	−.26	Occ.
ATS	AC3/M	−.23	Impressed
	DEM8/M	.20	Occ.
ATT	AM2/F	.21	Mastery
	AM7/M	.20	Trust in rearing
	AC3/M	−.29	Impressed
SOCDES	Nothing		
SOURCE	Nothing		
GWSR	AM1/F	.28	Occ. Prim. not Imp.
	AM2/F	.22	Mastery
	AM3/F	.21	Trust
	AM7/F	.20	Acc. In rearing not Imp.
	AM8/F	.29	Trust in rearing
	AM1/M	.20	Occ. Prim. not Imp.
	AC3/F	.25	Impressed
	DEM6/M	.22	Ed.
	DEM6/M	.35	Ed.
	DEM8/F	−.36	Occ.
NATLPC	AM1/F	.41	Occ. Prim. not Imp.
	AM2/F	.32	Mastery
	AM3/F	.25	Trust
	AM7/F	.41	Acc. in rearing not Imp.
	AM8/F	.40	Trust in rearing
	AM1/M	.42	Occ. Prim. not Imp.
	AM2/M	.32	Mastery
	AM3/M	.28	Trust
	AM4/M	.23	Activism
	AM5/M	.20	Indep. of rela.
	AM7/M	.42	Acc. in rearing not Imp.
	AM8/M	.24	Trust in rearing
	HE2/F	.38	Reward
	HE3/F	.25	Authority
	HE1/M	.23	Aff. Climate
	AC3/F	.29	Impressed
	DEM6/M	.32	Ed.
	DEM6/M	.29	Ed.
	DEM8/F	−.43	Occ.